

## **UNCRATING/INSTALLATION INSTRUCTIONS**

### **AMSCO® RELIANCE® 130/130L Cart and Utensil Washer/Disinfector**

(09/17/01)  
Rev. 4

P-122997-959

### **LIMITATIONS OF LIABILITY AND INDEMNITY**

IN NO CASE, WHETHER AS A RESULT OF A BREACH OF CONTRACT, BREACH OF WARRANTY, OR TORT (INCLUDING STERIS'S OR CUSTOMER'S WILLFUL ACTS, NEGLIGENCE, OR STRICT LIABILITY) SHALL STERIS OR CUSTOMER BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES INCURRED BY THE OTHER, INCLUDING, BUT NOT LIMITED TO, LOSS OF REVENUE, PROFITS, OR GOODWILL. HOWEVER, NOTHING CONTAINED IN THIS MANUAL IS INTENDED TO RELIEVE EITHER STERIS OR CUSTOMER FROM CLAIMS, LIABILITY, DAMAGES, OR EXPENSES RESULTING FROM BODILY INJURY, INCLUDING DEATH, OR FROM PROPERTY DAMAGE INCURRED DUE TO THE WILLFUL ACTS, NEGLIGENCE, OR STRICT LIABILITY OF THAT PARTY.

STERIS AGREES TO DEFEND, INDEMNIFY, AND HOLD CUSTOMER HARMLESS FROM ANY AND ALL CLAIMS, LIABILITY, DAMAGES, OR EXPENSES DUE TO PERSONAL INJURIES, INCLUDING DEATH, TO EMPLOYEES OF STERIS AND CUSTOMER AND TO THIRD PARTIES AND FOR PROPERTY DAMAGE TO THE EXTENT CAUSED BY THE WILLFUL ACTS, NEGLIGENCE, OR STRICT LIABILITY OF STERIS. CUSTOMER AGREES TO DEFEND, INDEMNIFY, AND HOLD STERIS HARMLESS FROM ANY AND ALL CLAIMS, LIABILITY, DAMAGES, OR EXPENSES DUE TO PERSONAL INJURIES, INCLUDING DEATH, TO EMPLOYEES OF CUSTOMER AND STERIS AND TO THIRD PARTIES AND FOR PROPERTY DAMAGE TO THE EXTENT CAUSED BY THE WILLFUL ACTS, NEGLIGENCE, OR STRICT LIABILITY OF CUSTOMER.

### **WARNING - COPYING PROHIBITED**

This manual is protected by Federal Copyright Law, which provides for damages of up to \$20,000, as well as criminal fines and imprisonment, for unauthorized copying.

# A WORD FROM STERIS CORPORATION

Follow each step of the Uncrating/Installation instructions **in the order presented**. Open the carton carefully to avoid damage to the equipment inside. If you find any indication of damage to the equipment (no matter how slight), show it to your supervisor.

To properly install this unit, you will need the Equipment Drawings (previously furnished), showing all utility service and space requirements. If drawings cannot be located, replacement copies may be obtained by writing, faxing or telephoning STERIS giving the serial and model numbers of your equipment.

If your Amsco® Reliance® 130L Cart and Utensil Washer/Disinfector (pit-mounted) is equipped with an **Amsco® Reliance® 130 Automated Transport System**: When indicated in this manual, refer to 130 ATS Uncrating/Installation Manual (P-920010-101) for specific instructions.

Once installed, equipment operation should be tested by a qualified service technician prior to your usage of the equipment.

If STERIS supervision is desired, for installing and starting up this equipment, contact your local STERIS representative.

## Indications For Use

The **Amsco® Reliance® 130/130L Cart and Utensil Washer/Disinfector** is a high capacity mechanical washer/disinfector intended for use in the efficient washing, low-level disinfection and drying of utensils, carts and other miscellaneous reusable items used in the care of patients.

The Amsco Reliance 130/130L Cart and Utensil Washer/Disinfector is equipped with a fully programmable Amsco Eagle® 3000 Stage IV microprocessor control system.

This washer is specifically designed to only process goods as outlined in this manual. If there is any doubt about a specific material or product, contact the manufacturer of the product for the recommended washing techniques.

## Advisory

A listing of safety precautions to be observed when uncrating, installing and testing this equipment can be found in Section 1 of these instructions. Do not begin uncrating or installation of this equipment until you have become familiar with this information.

Any alteration of the washer not authorized or performed by STERIS Engineering Service which could affect its operation will void the warranty, could adversely affect washing efficacy, could violate federal, state and local regulations, and could jeopardize your insurance coverage.

**IMPORTANT:** Be sure to check local occupational health and safety regulations, as well as electric and plumbing codes, for any special requirements that may pertain to installation of this unit.

## Service Information

A thorough preventive maintenance program is essential to safe and proper equipment operation. You are encouraged to contact your STERIS representative concerning extended service maintenance agreements to give your washer planned maintenance, assuring equipment performance according to factory specifications. A global network of skilled service specialists can provide periodic inspections and adjustments to assure low-cost peak performance. STERIS representatives can provide information regarding Annual Maintenance Agreements.

STERIS carries a complete line of accessories for use in this equipment. A STERIS representative will gladly review these with you.

### **Sales and Service Information:**

STERIS Corporation  
5960 Heisley Road  
Mentor, Ohio 44060  
Tel.: 440 354 2600  
Fax: 440 639 8199

### **Technical Assistance:**

STERIS Engineering Services  
2424 West 23rd Street  
Erie, PA 16506  
Tel.: 814 452 3100  
Fax: 814 870 8400

### **Manufacturing Plant:**

STERIS Canada Corporation  
415, rue des Alleghanys  
Beauport (Quebec)  
Canada G1C 4N4  
Tel.: 418 664 1549  
Fax: 418 664 0188

### **Authorized EU Representative:**

STERIS Limited  
STERIS House  
Jays Close  
Viables  
Basingstoke  
Hampshire RG22 4ZX  
United Kingdom  
Tel.: 44 1256 840400  
Fax: 44 1256 866502

### **STERIS Offices Worldwide:**

Canada	800 661 3937
Germany	49 2233 6999 400
Hong Kong	852 2 563 3623
Italy	39 0141 590429
Japan	81 78 252 1901
Korea	82 2 554 1661
Latin America	305 442 8202
Singapore	65 841 7677
Spain	3491 658 5920
United Kingdom	44 1256 840400

**Web Site:** [www.steris.com](http://www.steris.com)

## Certification

CE 0123

This Amsco Reliance 130/130L Cart and Utensil Washer/Disinfector complies with the following standards:

***Governing directive for the affixing of the CE mark:***

Medical Devices Directive (93/42/EEC), Annex II.

***Standards applied to demonstrate conformity to the directives:***

EN / IEC -61010-1 (1993) A1 (1992) A2 (1995), EN 50082-1, EN-50011, CISPR 11 (1991), EN 50082-2, EN 61000-4-2, EN 61000-4-3/ENV 50140, ENV 50204 (1996), EN 61000-4-4 (1995), EN 61000-4-6 (1996)/ENV 50141 (1993), EN-294 (1992), EN-349 (1993), ISO-3746 (1979), EN-418 (1992), EN 292-1 (1991), EN 292-2 (1991), EN 457 (1992).

This page intentionally left blank.

# TABLE OF CONTENTS

SECTION	TITLE	PAGE
1	<b>LITING OF WARNINGS, CAUTIONS AND SYMBOLS</b> .....	<b>1-1</b>
	Definition of Symbols .....	1-3
2	<b>SITE PREPARATION</b> .....	<b>2-1</b>
	Technical Specifications .....	2-1
	Amperage and Power Consumption .....	2-1
	Noise Level .....	2-1
	Permissible Environmental Conditions .....	2-1
	Before Installing Equipment .....	2-2
3	<b>UNCRATING/INSTALLATION INSTRUCTIONS</b> .....	<b>3-1</b>
	Open Crates .....	3-1
	Assembled Unit .....	3-1
	Control Panel Installation .....	3-3
	Disassembled Unit .....	3-7
	Disassembled Unit Assembly .....	3-9
	<b>Crate A</b> .....	<b>3-9</b>
	Sump .....	3-9
	Non-Service Side Walls .....	3-11
	Service Side Walls .....	3-13
	Control Configuration .....	3-13
	Temporary Roof Supports .....	3-15
	Roof .....	3-17
	<b>Crate B</b> .....	<b>3-19</b>
	Roof End .....	3-21
	Door Rail Holders .....	3-23
	Roof Components .....	3-25
	Emergency Guard Rails .....	3-27
	Spray Headers .....	3-29
	External Cabinet Corners .....	3-31
	Door Frames .....	3-33
	Roller Stoppers .....	3-35
	Door Panels .....	3-37
	Ventilation Duct .....	3-39
	Pulley Guards .....	3-41
	Traveler Cable .....	3-43
	Traveler Safety Cable .....	3-45
	<b>Crate C</b> .....	<b>3-47</b>
	Mobile Mechanical Core .....	3-47
	Move and Remove Skid .....	3-47
	Mechanical Core .....	3-51

# TABLE OF CONTENTS (CONT'D)

SECTION	TITLE	PAGE
	Leveling Legs .....	3-53
	<b>Crate D .....</b>	<b>3-55</b>
	Drying System Assembly .....	3-55
	Pneumatic Connections .....	3-57
	Door Links .....	3-61
	Electrical Connections .....	3-63
	Connect Utilities .....	3-67
	Service Panels and Transition Plates .....	3-69
	Ramp Option .....	3-71
	Service Access Panels .....	3-73
	Cleanup .....	3-75
<b>4</b>	<b>INSTALLATION CHECKLIST .....</b>	<b>4-1</b>
<b>5</b>	<b>START-UP TEST .....</b>	<b>5-1</b>
	How to Enter Factory Set-Up Mode .....	5-2
	How to Verify Indicator Lights .....	5-4
	How to Verify Door Configuration .....	5-5
	How to Enter Service Mode .....	5-6
	How to Activate Digital Outputs .....	5-7
	How to Verify Suction Pump Rotation .....	5-11
	How to Verify Exhaust Fan Rotation (Option) .....	5-12
	Air /Oil Tanks .....	5-13
	Calibration .....	5-15
	How to Calibrate Chemical Injection Rate .....	5-15
	How to Perform RTD Calibration .....	5-18
	How to Perform Hot Water Flowmeter Calibration. ..	5-20
	Miscellaneous Verifications in Automatic Mode .....	5-21
	Safety Features. ....	5-21
	Automatic Floor Tilt .....	5-25
	Manual Damper Adjustment .....	5-25
	Automatic Damper Adjustment .....	5-26
	Clean Steam Supply Valve .....	5-26
	Operational Test with 130L Load/Unload Modules .....	5-28



# **LIST OF ILLUSTRATIONS AND TABLES**

FIGURE	TITLE	PAGE
2-1.	Utility Service Connections .....	2-2
3-1.	Crates .....	3-2
3-2.	Amsco® Reliance® 130/130L Cart and Utensil Washer/Disinfector, Center of Gravity .....	3-4
3-3.	Amsco® Reliance® 130/130L Cart and Utensil Washer/Disinfector, Reference View Point for all Installation Locations .....	3-6
3-4.	Pit Mounted Unit .....	3-8
3-5.	Non-Service Side Walls .....	3-10
3-6.	Service Side Walls .....	3-12
3-7.	Temporary Roof Supports .....	3-14
3-8.	Roof .....	3-16
3-9.	Roof End .....	3-20
3-10.	Door Rail Holders .....	3-22
3-11.	Roof Components .....	3-24
3-12.	Crate D: Inside Chamber Components .....	3-26
3-12A.	Spray Headers .....	3-28
3-13.	External Cabinet Corners .....	3-30
3-14.	Door Frames .....	3-32
3-15.	Roller Stoppers .....	3-34
3-16.	Door Panels .....	3-36
3-17.	Ventilation Duct .....	3-38
3-18.	Pulley Guards .....	3-40
3-19.	Traveler Cable .....	3-42
3-20.	Traveler Safety Cable .....	3-44
3-21.	Slide Mechanical Core .....	3-46
3-22.	Mobile Mechanical Core - Center of Gravity .....	3-48
3-23.	Mechanical Core Piping .....	3-49
3-24.	Leveling Legs .....	3-52
3-25.	Drying System .....	3-54
3-26.	Floor Tilt Pneumatic Connections .....	3-56
3-27.	Top of Washer, Pneumatic Connections .....	3-58
3-28.	Door Links .....	3-60

## ***LIST ILLUSTRATIONS AND TABLES (CONT'D)***

---

<b>FIGURE</b>	<b>TITLE</b>	<b>PAGE</b>
3-29.	Electrical Connections .....	3-62
3-30.	Supplies Connections .....	3-66
3-31.	Service Panels and Transition Plates .....	3-68
3-32.	Ramp Option .....	3-70
3-33.	Service Access Panels (1 of 2) .....	3-72
3-34.	Service Access Panels (2 of 2) .....	3-74
5-1.	Control Panel and Printer .....	5-2
5-2.	Air/Oil Tanks .....	5-14
5-3.	Chemical Injection Ports .....	5-16
5-4.	Emergency Exit Safety Doors .....	5-22
5-5.	Exhaust Damper Adjustment .....	5-24

## ***LIST OF TABLES***

---








5-1.	I/O Board Outputs Tests .....	5-8
5-2.	I/O Board Inputs Tests .....	5-9
5-3.	Control Board Analog Inputs Test .....	5-9
5-4.	Interlock Features .....	5-10

# LISTING OF WARNINGS, CAUTIONS AND SYMBOLS


1

The following is a listing of the safety precautions which must be observed when uncrating, installing and operating this equipment. **WARNINGS** indicate the potential for danger to personnel and **CAUTIONS** indicate the potential for damage to equipment. These precautions are repeated, where applicable, throughout the instructions.


## WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

-  **When moving the unit**, use a forklift.
-  **Only fully qualified service personnel should assemble and/or make adjustments to this equipment.** Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales or service representative regarding service options.
-  **Do not remove protective paper covering doors** until installation is complete. Paper secures exterior glass during transport and installation.
-  **To test or demonstrate Emergency Exit Safety Doors**, first press EMERGENCY STOP PUSHBUTTON (located under control) or Emergency Stop Guard Rails (inside wash chamber) to turn power OFF. If power is still on while adjusting or servicing doors, the Photoelectric Sensor will detect the movement of the door panels and doors will open automatically.
-  **Do not assemble Drying System components** (frame, fan and heat exchanger) prior to installation on the mechanical core. Lifting assembled Drying system components may result in back injury or equipment damage.
-  **Before moving Mechanical Core**, always lower security legs located on inside frame corners.
-  **When installation of Mechanical Core is completed**, lock wheels into position.





## WARNING - LACERATION/EYE INJURY HAZARD:

-  **When removing bands**, wear gloves and eye protection, and always use a tool specifically designed to cut the bands. The bands used to secure these crates can cause personal injury when cut and tension is released.


## WARNING - LACERATION HAZARD:

-  **When removing bolts**, wear gloves to protect your hands.

## WARNING - PERSONAL INJURY HAZARD:






-  **Doors are heavy.** Installation of doors requires two people.
-  **When doors are closing** a pinch point is created at the hinges. Keep fingers away from door hinges in order to prevent pinching.
-  **Keep hands/fingers away from closing doors** in order to prevent crushing between the two doors.
-  **To open doors from inside wash chamber**, press Emergency Stop Guard Rails. Washer operation will automatically stop. Then, push firmly between door panels using shoulder and upper arm, applying upper body force. Do not push between the doors, but between door panels.

*(See next page for additional Warnings and Cautions)*

 **Two people are required to install the end roof sections.** Using a step ladder, first place roof end on roof-end support brackets, then lift it up and place it into position.

---


### **WARNING - BURN HAZARD:**

-  **Except for emergency**, do not open doors when cycle is in progress. In an emergency, first stop cycle by pressing the Emergency Stop pushbutton and wait for water flow to stop. Wear appropriate personal protective equipment (PPE) whenever reaching into or entering wash chamber.
  -  **Allow unit to cool down** before performing any service on pump. Surface of motor and piping become very hot during unit operation.
  -  **Allow unit to cool down** before performing any service on mechanical components and on piping. Components and piping become very hot during unit operation.
  -  **Allow piping to cool down** before inspecting and/or cleaning supply-line strainers.
  -  **When inspecting and/or cleaning** supply line strainers, hot water/steam may be sprayed through door opening. Wear appropriate personal protective equipment (PPE).
- 

### **WARNING - FALL HAZARD:**

-  **To prevent falls**, keep floors dry. Promptly clean up any spills or drippage.
- 


### **WARNING - ELECTRIC SHOCK HAZARD:**

-  **Fasteners and star washers** are used to ensure protective bonding continuity. Always reinstall any star washer which may have been removed during installation or servicing.
- 


### **WARNING - ELECTRIC SHOCK AND/OR BURN HAZARD:**

-  Disconnect all utilities before servicing. Do not service washer unless all utilities have been properly locked out. Always follow local Lockout-Tagout and electrical safety-related work practice standards.
- 

### **WARNING - CHEMICAL BURN/EYE INJURY HAZARD:**

-  **Washer chemicals are caustic** and can cause adverse effects to exposed tissues. Do not get in eyes, on skin or attempt to ingest by mouth.
    - Read and follow the precautions and instructions on the chemical label and in the Material Safety Data Sheet (MSDS) prior to handling the chemical, refilling the chemical containers or servicing the chemical injection pumps and lines.
    - Refer to MSDS for appropriate personal protective equipment (PPE) whenever handling chemicals or servicing chemical injection pump and lines.
- 

### **CAUTION - POSSIBLE EQUIPMENT DAMAGE:**

-  After utilities are connected to washer, slowly remove the protective adhesive paper from the exterior cabinet panels to reduce the risk of static discharge.

*(See next page for additional Cautions)*

CAUTION - POSSIBLE EQUIPMENT DAMAGE (CONT'D):





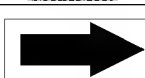


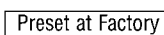
- ⚠ When removing adhesives from stainless steel, use a small amount of non-flammable cleaning solvent. Rub in a back-and-forth motion (in same direction as surface grain). Solvent rubbed in a circular motion or applied with a wire brush or steel wool on door and chamber assemblies can be harmful to stainless steel. Do not use solvents on painted surfaces.
- ⚠ Once three-phase power is connected, check pump for correct rotation (indicated by arrow on pump motor). Incorrect pump rotation may result in pump damage and improper cleaning action.
- ⚠ Do not remove adhesive tape from corner spring traps before installation of doors is completed.
- ⚠ Use pliers to tighten quick-disconnect clamps. Pump damage may result if air passes through connections.
- ⚠ Before removing plugs on Air/Oil tanks, make sure doors are in closed position and all door outputs are de-activated.
- ⚠ Never fill all air/oil tanks to the top. Excess oil overflow will damage pneumatic valves.

**IMPORTANT:** Be sure to check the local occupational health and safety regulations, as well as electric and plumbing codes, for any special requirements that may pertain to installation of this unit.

Definition of Symbols

Symbol	Definition
	Transfer of Heat, Hot Surface
	Protective Earth (Ground)
	Warning! Risk of Electrical Shock
	Electrostatic Sensitive Device
	Attention, Consult Manual for Further Instructions
	Tip 'N Tell Indicator

## Definition of Symbols

Symbol	Definition
	Warning! Do Not Step Here.
	Fork Lift: Place Forks of the Fork Lift Here.
	Safety Exit: Push Here in Case of Emergency.
	Open this Side
	Rotation: Direction of the Rotating Device.
	Emergency Stop Guard Rails: Push to Stop Washer and De-energize Control.
	Load Delimitation: Do Not Place Load Over Marks.
	Factory Adjustment: Do Not Adjust.
A	Amperage Rating of the Unit
V	Voltage Rating of the Unit
~	Alternating Current
kW	Power Rating of the Unit
Hz	Frequency of the Unit
$\phi$	Phase of the Unit

Technical Specifications

/// // // // //

These specifications are intended to describe the technical information given on the nameplate of your washer and to state other relevant information. Check Equipment Drawing or Identification nameplate, located on frame of mobile mechanical core, below main electrical box, for proper voltage and amperage.

This unit operates either on 208 V~, 3-phase, 60 Hz, 380/400/415 V~, 3-phase, 50 Hz or 480 V~, 3-phase, 60 Hz. Refer to Uncrating/Installation Manual (P-122997-959) for proper connection.

A protective ground conductor is required (Class 1 Equipment). Installation Category II (Overvoltage Category).

**If 130L equipped with Reliance® 130L Load/Unload Modules (Accessory):** Refer to Uncrating/Installation Manual (P-920010-101) for technical specifications and proper connection specific to Reliance 130L Load/Unload Modules.

AMPERAGE AND POWER CONSUMPTION

Maximum currents and power consumptions.

	A	kW
208 V	37.0	13.3
380/400/415 V	13.0	9.3
480 V	17.5	14.6

NOISE LEVEL

Equivalent Sound Pressure Level at work station (measured 1 meter away from equipment and at 1,6 meters from ground): **76.6 dB (A)** for a freestanding unit with side panels and **72.6 dB (A)** for an enclosed unit. (Results determined according to *ISO-3746: 1979 Standard: Acoustics Determination of Sound Power Levels of Noise Sources Survey Method*).

PERMISSIBLE ENVIRONMENTAL CONDITIONS

This washer is designed to give optimal results in an environment where maximum relative humidity is less than 85% and maximum operating temperature is 104°F (40°C).

## Before Installing Equipment

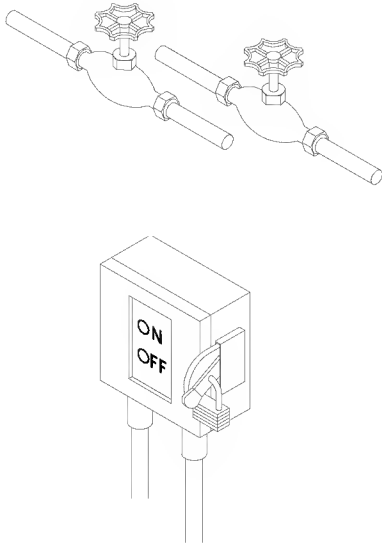


Figure 2-1. Utility Service Connections

1. Review permissible environmental conditions: this washer is designed to give optimal results in an environment where maximum relative humidity is less than 85% and maximum operating temperature is 104°F (40°C).

2. An optional seismic anchorage system is available for high risk seismic zones.

3. Review installation requirements:

**a. Clearance** - Clearance space shown on Equipment Drawing is necessary for ease of installation and proper operation and maintenance of washer (see Equipment Drawing 122-998-076 for 130 and 920-003-480 for 130L).

**b. Barrier wall flange(s) installation** - Refer to Equipment Drawing 122998-076 for 130 and 920-003-480 for 130L for installation.

### c. Utility service lines:

- To allow service on unit without shutting off building supply lines, shutoff valves (not by STERIS) should be installed on steam, air and water lines to unit (see Figure 2-1). Shutoff valves must be capable of being locked in OFF position only.
- Disconnect switch (not by STERIS) must be installed on electric supply line (see Figure 2-1).
- Disconnect switches must be marked as the disconnecting device for the equipment and must be capable of being locked in OFF position only.
- If machine is installed next to other equipment, shutoff valves and disconnect switches should be located so that service can be shut off to one piece of equipment at a time.
- The disconnect device of the equipment must be within easy reach of the operator (preferably no more than 3 feet [1 m] away from equipment).
- Utility service requirements are shown on Equipment Drawing.

### d. Electricity

- Unit requires either 208 V, 60 Hz, 3-phase, 3-wire; 380/400/415 V, 50 Hz, 3-phase, 3-wire; or 480 V, 60 Hz, 3-phase, 3-wire power.

For 208 V, 60 Hz, a 50 A disconnect switch and AWG #6 (16 mm) wire is recommended.

For 480 V, 60 Hz, a 30 A disconnect switch and AWG #10 (6 mm) wire is recommended.

For 380/400/415 V, 50 Hz, a 20 A disconnect switch and AWG #12 (4 mm<sup>2</sup>) wire is recommended.



**If electrical supply is 380 V or 400 V**, locate the 1000 VA transformer, inside the main electrical box, and connect red wire of primary side to 380 V (H2) tap connection.

- Check Equipment Drawing or Identification nameplate, located on frame of mobile mechanical core, below main electrical box (see Figure 3-3), for proper voltage and amperage.
- Installation category II (overvoltage category).
- This equipment is not intended to be connected close to the main supply of the building.
- This equipment needs to be installed according to local electrical codes.

#### **4. This is a Class 1 equipment**

A protective conductor connection is essential for the safe operation of the equipment. Check for presence of protective conductor at equipment terminal and verify if connection is well secured inside terminal with proper torque requirement.

- Torque requirement for supply conductor terminals:  
(L1-L2-L3): 0.89 -1.03 lb/ft (1,2 - 1,4 N•m)
- Protective conductor terminal: 16.96 - 29.50 lb/ft  
(23 - 40 N•m)

5. Make sure washer is placed, as shown on Equipment Drawing, in correct relation to building supply lines. If unit is not at installation site, refer to Section 3 for proper moving instructions.

6. If washer is pit-mounted:

- Pit must be clean.
- Pit drain piping should be level with pit floor to allow water to drain.
- Double check pit dimension for drain location.

This page intentionally left blank.

## Open Crates

### >> Assembled Unit

NOTE: Use a forklift to move crates.

NOTE: Uncrate on level floor as close to installation site as possible.

**IMPORTANT:** Bring in and uncrate only one crate at a time (see Figure 3-1).

A fully equipped, assembled unit should consist of 3 crates:

#### Model 130:

- **Crate A:** Sump, floor, roof, non-service side panels, hardware box, control panel(s), doors.  
Dimensions: W x L x H = 89" x 109" x 117" (226 x 277 x 297 cm).  
Weight: 4000 lb (1818 kg).  
If option side panel add 200 lb (91 kg).

#### Model 130L:


- **Crate A:** Sump, floor, roof, non-service side panels, hardware box, control panel(s), doors.  
Dimensions: W x L x H = 89" x 126" x 117" (226 x 320 x 297 cm).  
Weight: 4600 lb (2090 kg).  
If option side panel add 200 lb (91 kg).


#### Both models:

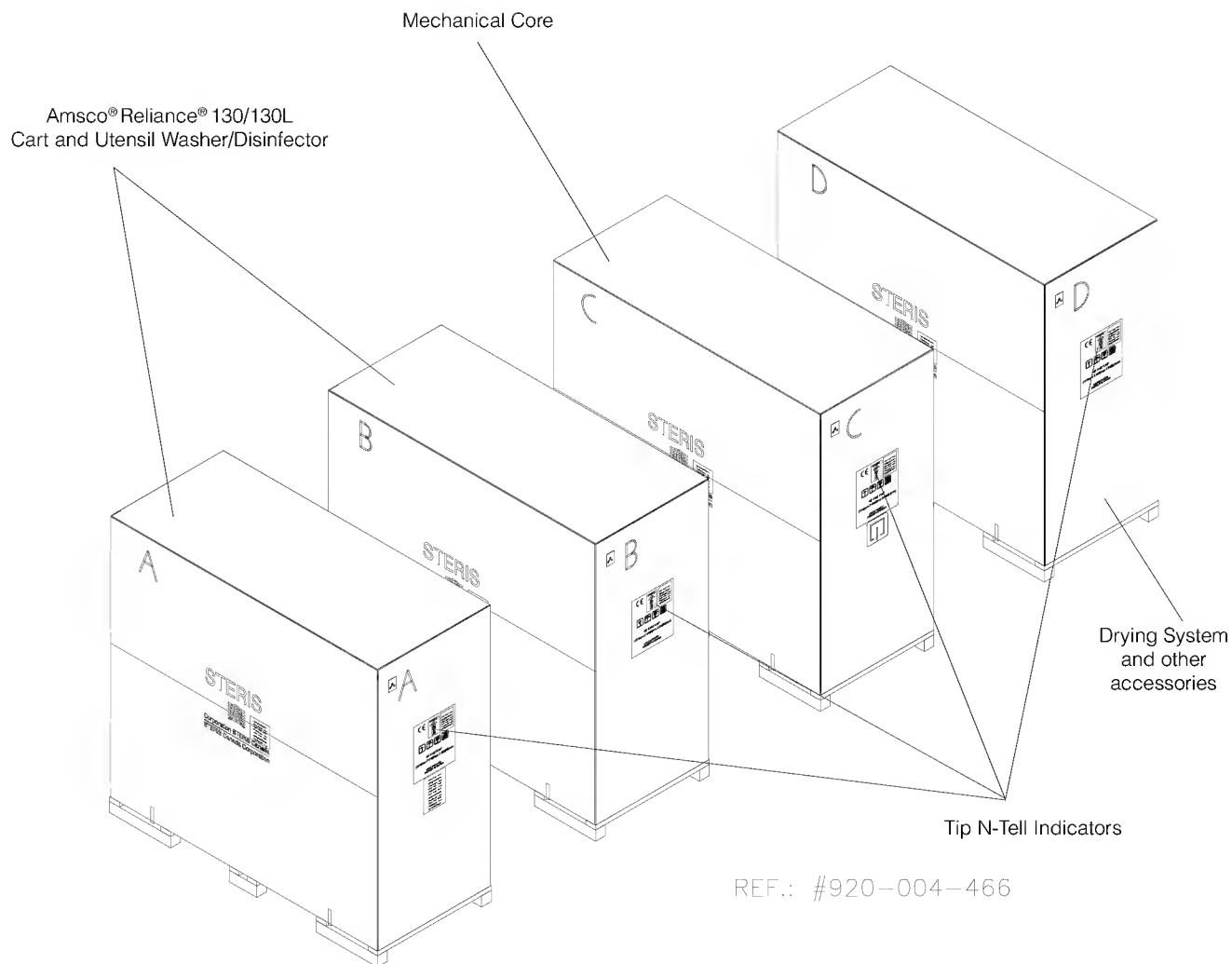
- **Crate C:** Mechanical core.  
Dimensions: W x L x H = 48" x 91" x 88" (226 x 320 x 297 cm).  
Weight: 2000 lb (909 kg).
- **Crate D:** Drying package.  
Dimensions: W x L x H = 48" x 60" x 44" (122 x 152 x 112 cm).  
Weight: 805 lb (365 kg).  
And/or ramp (option)  
Dimensions: W x L x H = 55" x 66" x 47" (140 x 168 x 119 cm).  
Weight: 550 lb (250 kg).

NOTE: There is no Crate B for assembled units.

1. Bring Crate A (washer) as close as possible to installation site (see Figure 3-2 for Center of Gravity).
2. Position unit to open wooden crate from top and side. Provide a clear work area on all sides.
3. Remove transparent plastic wrap from around crate.
4. Check tip indicator, located on upper left side of crates. Tip indicator contains a blue compound at the bottom of the indicator. If unit has been tipped, residue from the blue compound will be found higher up in the indicator. If unit has been tipped, contact your STERIS representative to determine if a service technician is required to inspect the equipment and determine if unit was damaged.
5. Remove wood panels from top and sides of washer.

 **WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:** When moving the unit, use a forklift.

 **WARNING - LACERATION HAZARD:** When removing bands, wear gloves and eye protection, and always use a tool specifically designed to cut the bands. The bands used to secure crates can cause personal injury when cut and tension is released.



**Figure 3-1. Crates**

6. With skid under washer, using a fork lift, lift and bring washer close to installation site.
7. Using a fork lift, lift washer and remove skid from under washer.
8. Place washer into pit at final installation site. For proper installation, see Equipment Drawings (122-998-076 for 130 and 920-003-480 for 130L) and seismic anchorage report if option applies.

**IMPORTANT:** Be sure that suction piping is located on service side.

**9. Floor mounted units:**

- With a spirit level, level sump, end-to-end and side-to-side, adjusting four leveling legs (one at each corner of sump).
- Distance from door sill and floor can be adjusted between 5-1/4" to 7" (135 mm to 180 mm).

**10. Pit-mounted units:**

- For units requiring seismic anchorage, pit must be 78" [1980 mm].
- With a spirit level, level sump, end-to-end and side-to-side, adjusting four leveling legs (one at each corner of sump).
- To access leveling legs, external cabinet corners and front service panels may have to be removed, as follows:
  - a) Remove screws holding front service panel in place, and remove panel.
  - b) Remove screws holding non-control side external cabinet corner panel in place and remove panel.

**NOTE:** *Leveling legs on control side panels can be reached from behind control side panel without having to remove panel.*

- Make sure washer is flush with floor.

**11. Inside wash chamber:**

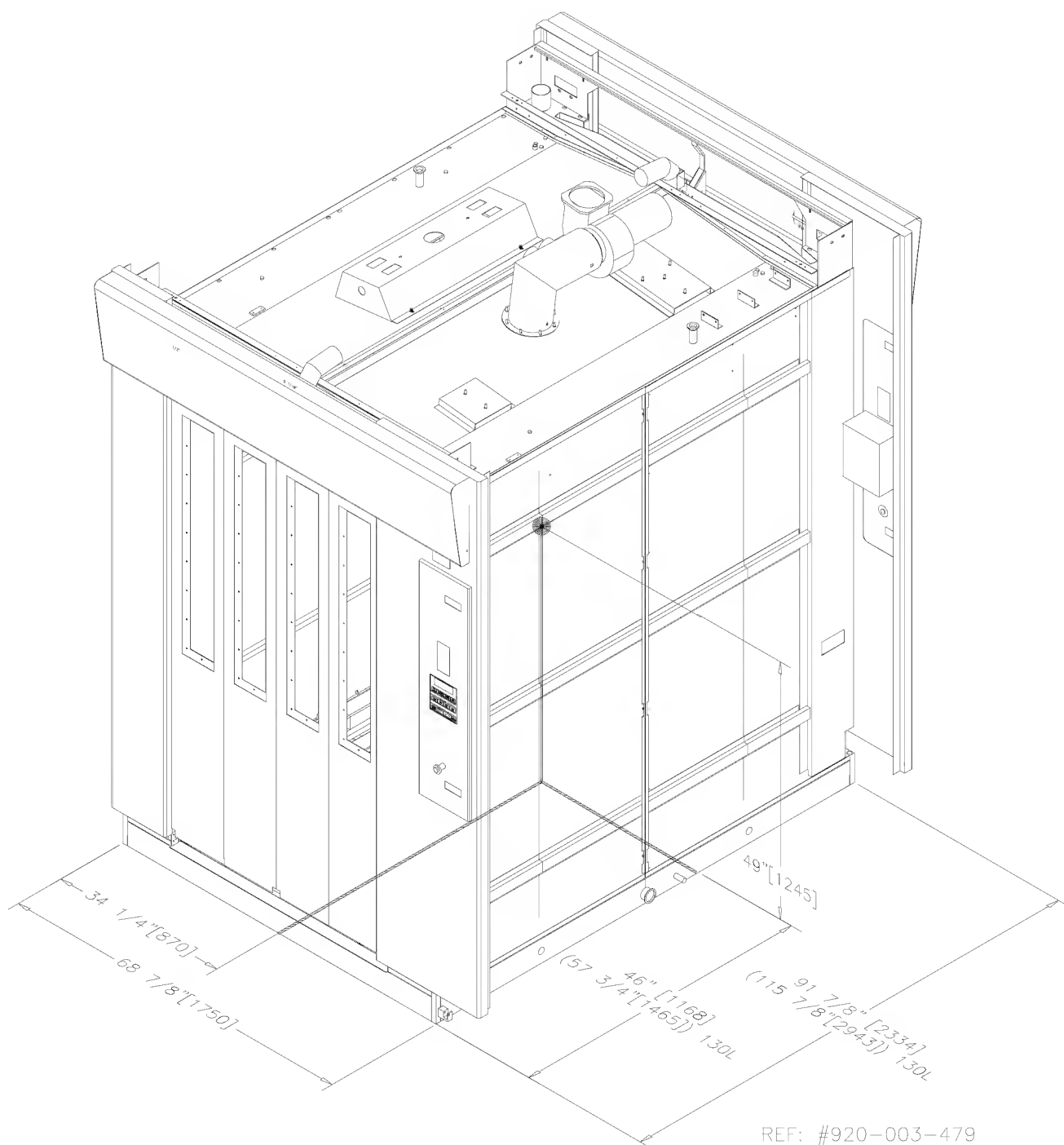
- Cut bands and remove control(s) from bottom of wash chamber.

**>> Control Panel Installation**

**NOTE:** *Before installing control, always verify with Customer if the placement for main control with printer corresponds to configuration demanded.*

**NOTE:** *Control Configuration. If controls have been changed from one end to the other, align control with control door window, as follows:*

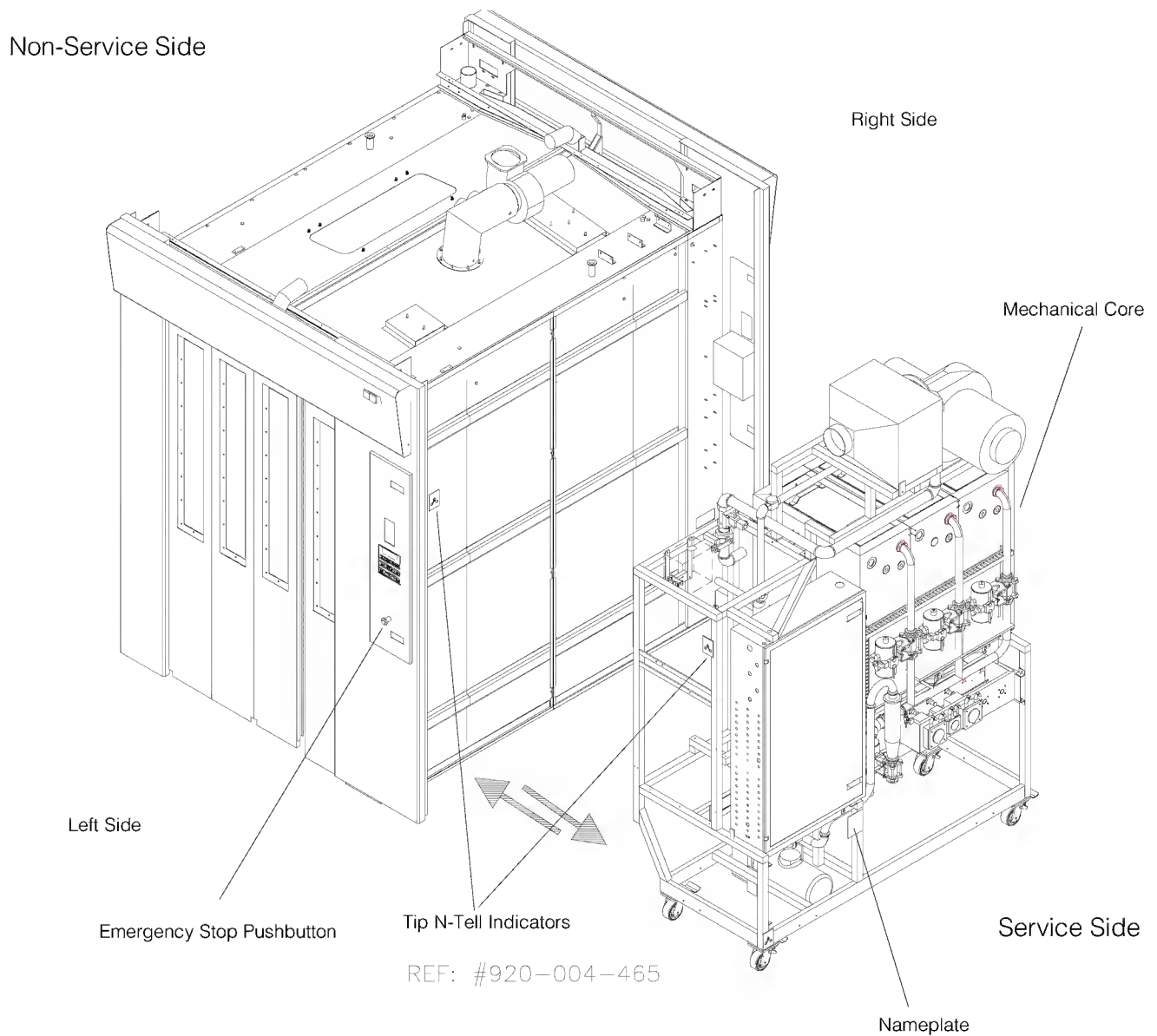
1. Install controls on service side cabinet corner (5, 7) using hardware provided on controls (97, 98). Tighten all hardware (see Figure 3-6).
2. Close locks on control door.



**Figure 3-2. Amsco® Reliance® 130 /130L Cart and Utensil Washer/Disinfector  
Center of Gravity**

3. Place control next to transparent membrane as if to operate control touch pad.
4. Align control with control door window.
5. Tighten nuts.
6. Use blank sticker to cover printer window on secondary control side (see Figure 3-13, Detail A).
  - Remove bolts holding pieces of wood securing spray headers in place.
  - Remove bolts and remove wooden floor frame inside wash chamber.
  - Remove pieces of wood securing doors in place.

Once unit is in place, see page 3-45 (crate C) and page 3-51 (crate D) to complete washer installation.



**Figure 3-3. Amsco® Reliance® 130/130L Cart and Utensil Washer/Disinfector, Reference View Point for all Installation Locations**



## >> Disassembled Unit

A fully equipped, disassembled unit should consist of 4 crates:

### Model 130:

- Crate A: Sump, floor, roof, non-service side panels, hardware box.  
Dimensions: W x L x H = 49" x 108" x 85" (125 x 274 x 216 cm)  
Weight: 2000 lb (909 kg).

### Model 130L:

- Crate A: Sump, floor, roof, non-service side panels, hardware box.  
Dimensions: W x L x H = 49" x 121" x 85" (125 x 307 x 216 cm)  
Weight: 2600 lb (1182 kg).

### Both models:

- Crate B: End roof, piping, guards, doors, without side panel.  
Dimensions: W x L x H = 48" x 108" x 84" (122 x 274 x 213 cm)  
Weight: 2000 lb (909 kg).  
If option side panel, add 200 lb (91 kg).
- Crate C: Mechanical core.  
Dimensions: W x L x H = 48" x 91" x 88" (122 x 231 x 224 cm)  
Weight: 2000 lb (909 kg)
- Crate D: Drying package.  
Dimensions: W x L x H = 48" x 60" x 44" (122 x 152 x 112 cm)  
Weight: 805 lb (365 kg)  
And/or ramp (option)  
Dimensions: W x L x H = 55" x 66" x 47" (140 x 168 x 119 cm)  
Weight: 550 lb (250 kg).

1. Remove transparent plastic wrap from around crate.
2. Check tip indicator, located on upper left side of crates. Tip indicator contains a blue compound at the bottom of the indicator. If unit has been tipped, residue from the blue compound will be found higher up in the indicator. If unit has been tipped, contact your STERIS representative to determine if a service technician is required to inspect the equipment and determine if unit was damaged.
3. Position unit to open wooden crate from top and side. Provide a clear work area on all sides.
4. Remove and discard side wooden panels.

**IMPORTANT:** Do not remove wooden top and side crate frames. All parts must be removed from crate ends. Do not remove parts from top of crates.

**NOTE:** Do not remove white protective adhesive paper from washer until after utilities are connected.

5. Mobile mechanical core:

- Check tip indicator, located on frame below main electrical box (see Figure 3-3). If unit has been tipped, contact your STERIS representative to determine if a service technician is required to inspect the equipment and determine if unit was damaged.

6. Repeat steps 1 through 3 for each crate.

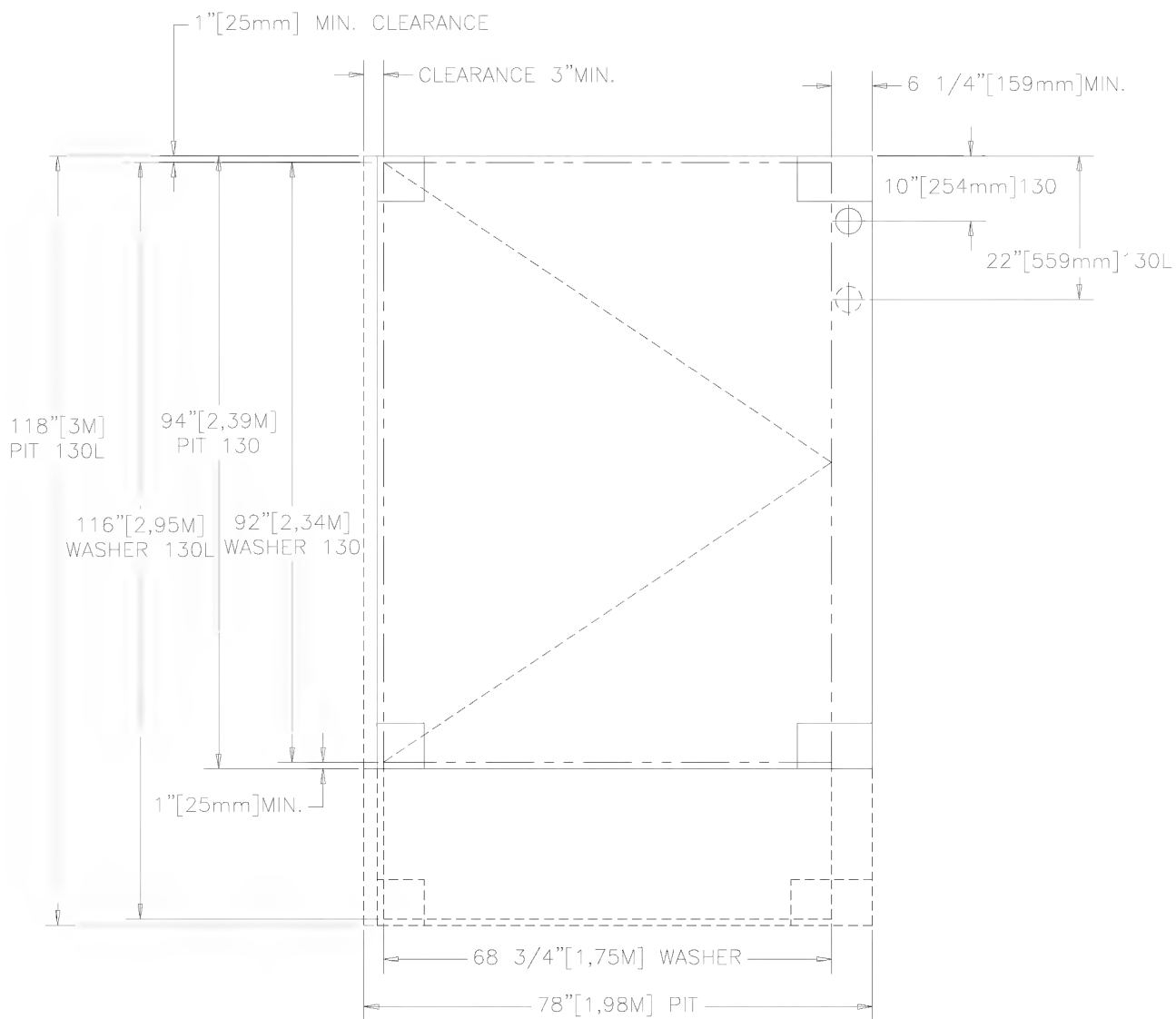
**IMPORTANT:** Become familiar with components and installation instructions before installing washer (see Figure 3-3).



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:** When moving the unit, use a forklift.



**WARNING - LACERATION/EYE INJURY HAZARD:** When removing bands, wear gloves and eye protection, and always use a tool specifically designed to cut the bands. The bands used to secure crates can cause personal injury when cut and tension is released.



REF.: #920-004-467

**Figure 3-4. Pit Mounted Unit**

## Disassembled Unit Assembly

### >> Crate A

**IMPORTANT:** Uncrate and assemble only one crate at a time.

*NOTE: Bolts, washers, nuts and other items needed for the assembly of the unit are in a box labeled "Hardware", inside Crate A.*

*NOTE: Major components in crate are numbered to assist in inventory and assembly of unit. Review crate contents by matching numbers on components to numbers listed in parentheses and on Figures.*

Contents:

- Sump, without floor and floor grating assembly (1).
- Cabinet corner panels, non-service side, left (2), right (4) and center panel (3 for 130L).
- Cabinet corner panels, service side, left (7), right (5) and center panel (6 for 130L).
- Roof mounting brackets (9).
- Non service side roof (10) and service side roof (11).
- Floor frame (31).
- Floor grating sections: 1 central section (32) 2 side sections (33).
- Main Control (97).
- Remote Control (98).
- Cabinet supports (99).
- Hardware Installation Kit: bolts, silicon, etc.

### >> Sump Figure 3-4

1. For complete installation details, see Equipment drawings (122998-076 for 130 and 920-003-480 for 130L) and Seismic Anchorage Report (920-004-485 for 130 and 920-004-484 for 130L) if option applies.


*NOTE: For seismic installation, refer to Seismic Anchorage Instructions (included with Seismic Anchorage Kit).*


2. Install sump on floor or in pit (if pit-mounted unit).

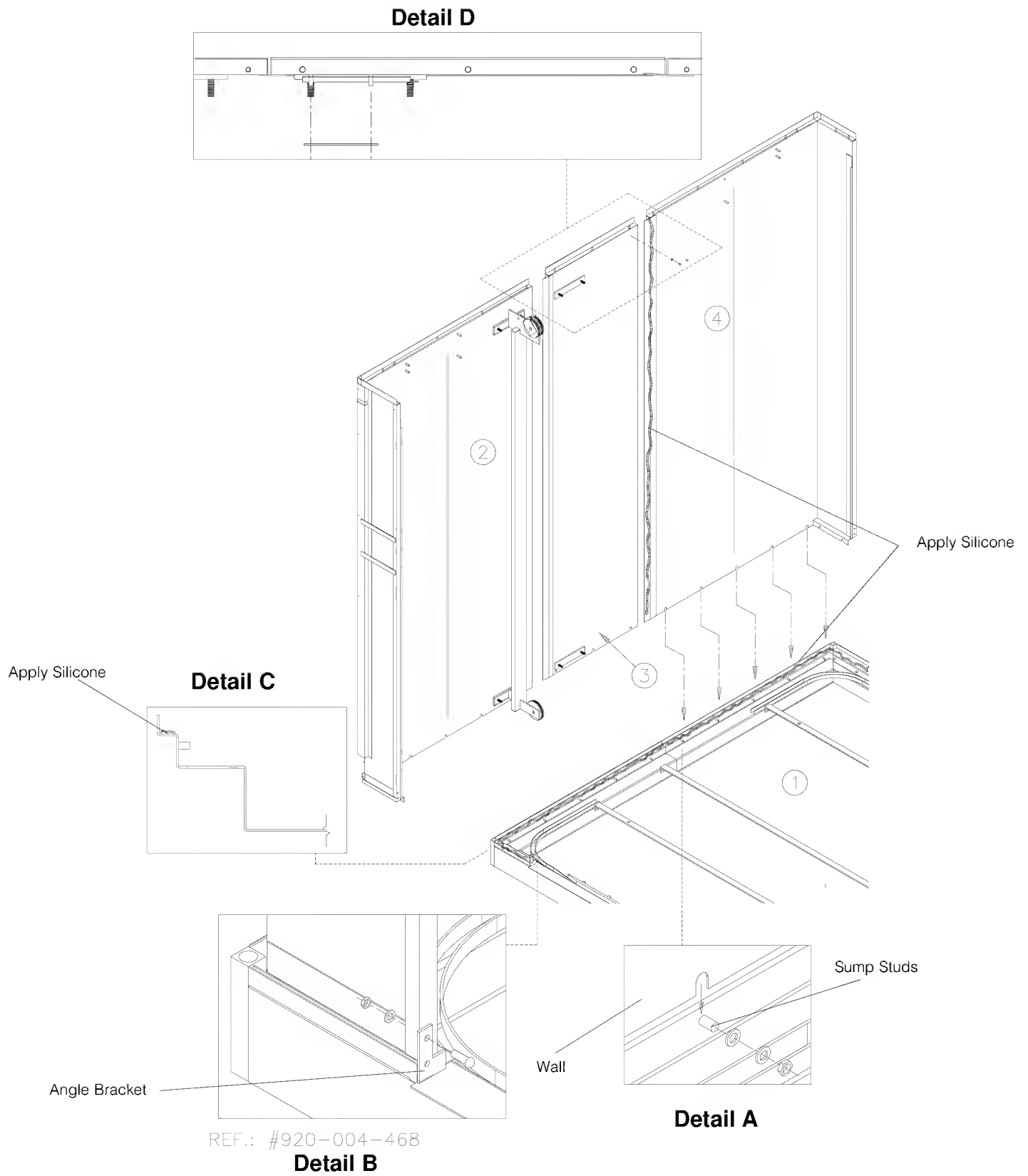
**IMPORTANT:** Be sure that suction piping is located on service side.

3. Floor mounted units:

- With a 24" spirit level, level sump, end-to-end and side-to-side, adjusting four leveling legs (one at each corner of sump).
- Distance from door sill and floor can be adjusted between 5-1/4" to 7" (135 mm to 180 mm).

 **WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:** When moving the unit, use a forklift.

 **WARNING - LACERATION HAZARD:** When removing bolts, wear gloves to protect your hands.



**Figure 3-5. Non-Service Side Walls**

4. Pit-mounted units:
  - Make sure that no floor covering materials, such as tile or wood, will be installed after unit is into pit. If a floor covering is required, make sure unit is flush with floor covering.
  - For units requiring seismic anchorage, pit must be 78" [1980 mm].
  - With a 24" spirit level, level sump, end-to-end and side-to-side, adjusting four leveling legs (one at each corner of sump).
  - Make sure washer is flush with floor.
5. Floor Gratings (Figure 3-12):
  - a) Install floor frame (31) inserting pins in holes (non-service side).
  - b) Install floor gratings [center (32), sides (33)] on floor frame.

## >> Non-Service Side Walls **Figure 3-5**

**IMPORTANT:** At least two people are required to assemble side walls.

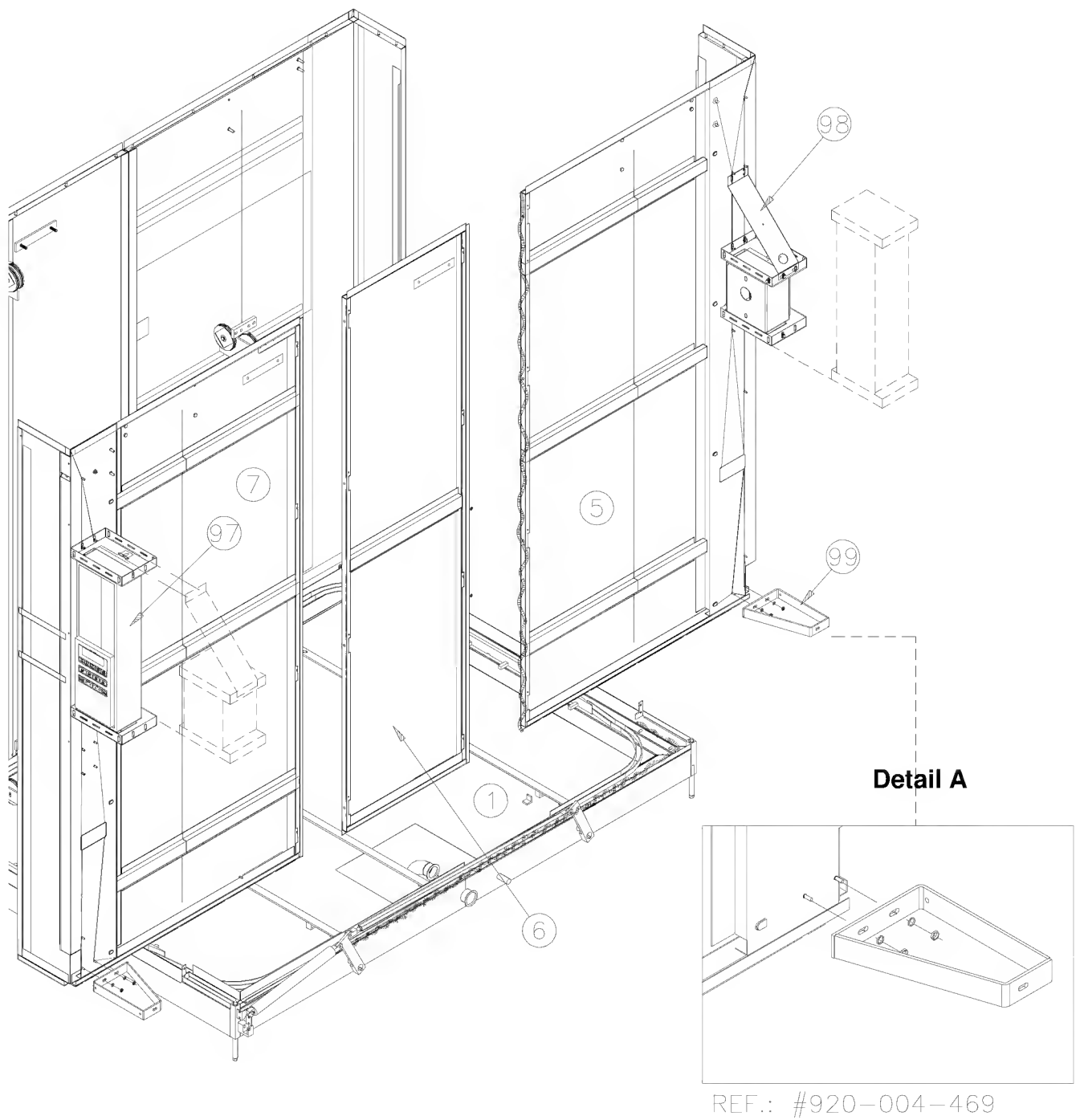
1. Spread a 3/8" (7 mm) bead of silicone on non-service side sump base (1).
2. Spread a 3/8" (7 mm) bead of silicone on side of left corner panel (2) (and panel 2a for 130L).

*NOTE: For washer installation with no clearance on non-service side of wash cabinet, bolt non-service side panels together (step 6), before bringing panels close to the washer.*

3. Bring left corner panel (2) using installation cutout handles. Seat over sump, behind angle brackets (see Figure 3-5, Detail B).

*NOTE: DO NOT use a pneumatic or impact tool to tighten nuts. Finger-tighten the 1/4-20 bolts first to support the panel.*

4. Finger-tighten hardware holding panel to sump, using 5/16" washers, 5/16" spring washers and nuts at bottom of sump (see Figure 3-5, Detail A). Use 1/4-20 x 3/4" bolts, 1/4" lockwashers and 1/4-20 nuts for angle brackets (see Figure 3-5, Detail B).
5. Repeat steps 2 to 4 to install center panel (3) (for 130L) and right non-service panel (4).
6. From outside, on non-service side, apply a bead of silicone and join non-service side panels together [2, 4 (3 for 130L)], using four 5/16-18 x 3/4" bolts, eight 5/16" washers and four 5/16" lockwashers provided.
7. Tighten wall to sump and secure wall to angle brackets (see Figure 3-5, Detail B).



**Figure 3-6. Service Side Walls**

## >> Service Side Walls Figures 3-5 and 3-6

**IMPORTANT:** At least two people are required to assemble side walls.

1. Apply a 3/8" (7 mm) bead of silicone on service side sump base (1).
2. Apply a 3/8" (7 mm) bead of silicone on top and side of right panels (5).
3. Bring right corner service side panel (5) and seat over sump, behind angle brackets (see Figure 3-5, Detail A).

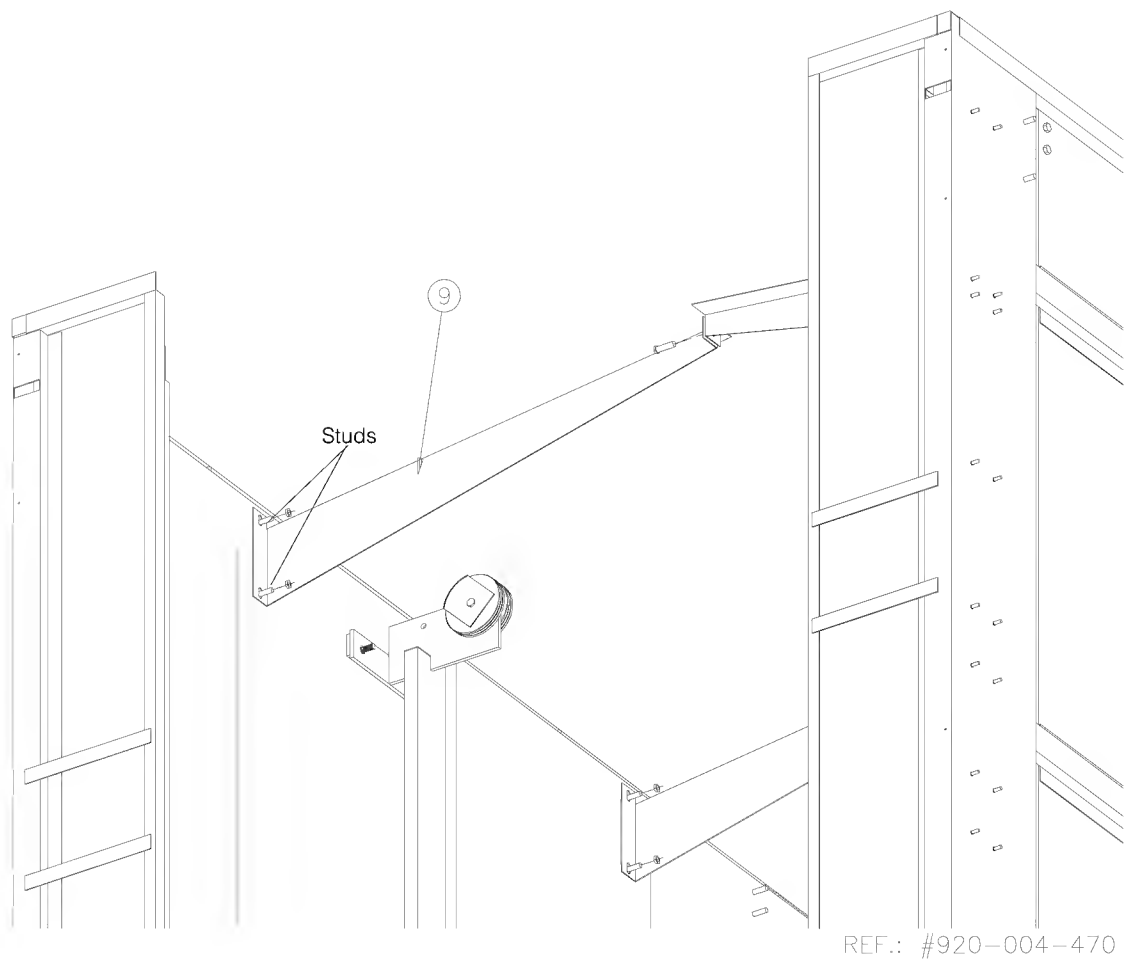
**NOTE:** *Finger-tighten the 1/4"-20 bolts first to support the panel.*

4. Finger-tighten hardware holding panels to sump, using 5/16" washers, 5/16" springwashers and nuts at bottom of sump (see Figure 3-5, Detail A). Use 1/4-20 x 3/4" bolts, 1/4" lockwashers and 1/4-20 nuts for angle brackets (see Figure 3-5 Detail B).
5. Repeat steps 2 to 4 to install center panel (6), 130L only and left service side (7).
6. From outside, on service side, join service side panels together (5, 6, 7 for 130L), using four 5/16-18 x 3/4" bolts, eight 5/16" washers, four 5/16" lock washers and nuts provided.
7. Tighten wall to sump and secure wall to angle brackets.

## >> Control Configuration **NOTE:** *Controls can be installed to suit customer requirements.*

Factory installation: main control (97) is installed to the left and remote control (98) is installed to the right (facing service side of unit).

1. To change printer location, dismantle both supports with controls, (controls should stay on supports) (see Figure 3-6, Detail A) and re-install on opposite ends of washer, using 1/4" washers and 1/4-20 nuts provided.
2. Install control cabinet supports (99 on Figure 3-6), one bottom right and one bottom left corner using 1/4" washers and 1/4-20 nuts provided. Make final adjustments when installing cabinet (39, 40 on Figure 3-13) and tighten hardware.



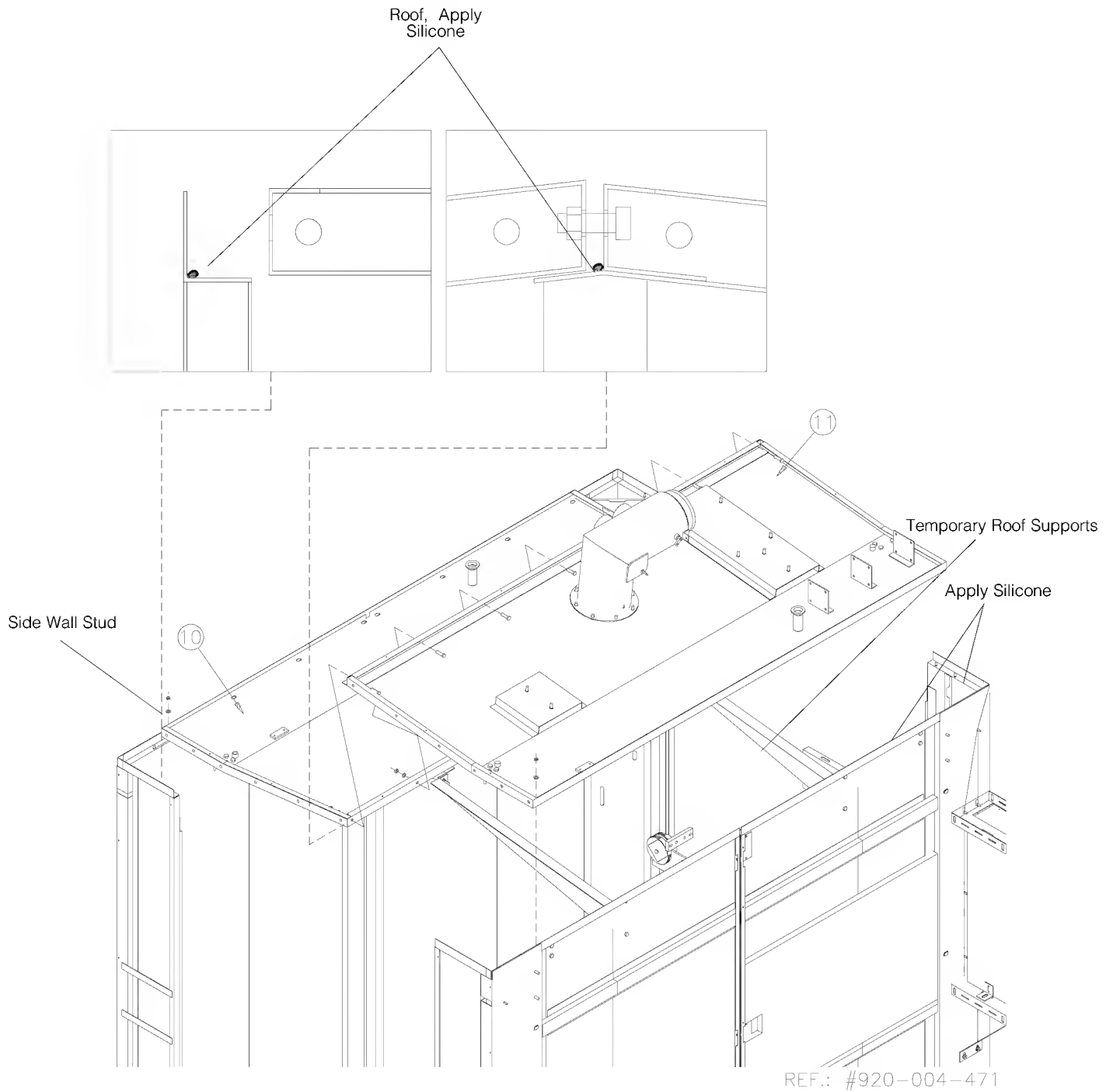
**Figure 3-7. Temporary Roof Supports**



## **>> Temporary Roof Supports    Figure 3-7**

1. On each side of washer, install temporary roof mounting supports (9). Position supports so they are in the highest position. Bolt temporary roof mounting supports to wall, using 5/16-18 nuts and 5/16" washers provided.
2. Bolt supports together in the middle with 5/16-18 x 3/4" bolts, 5/16" washers, and 5/16" nuts.

## Detail A



**Figure 3-8. Roof**

## >> **Roof** Figure 3-8

*NOTE: refer to Equipment Drawings 122-998-076 for 130 and 920-003-480 for 130L, for clearance requirements.*

1. Apply a 3/8" (7 mm) bead of silicone on top of side panels, non-service and service side (see Detail A).
2. Slide service-side roof (11) over temporary mounting supports, aligning holes and studs.
3. Apply a 3/8" (7 mm) bead of silicone on edge of service side roof panel (see Detail A).
4. Slide non-service side roof (10) over temporary mounting supports, aligning holes and studs.

**IMPORTANT:** Do not tighten nuts yet.

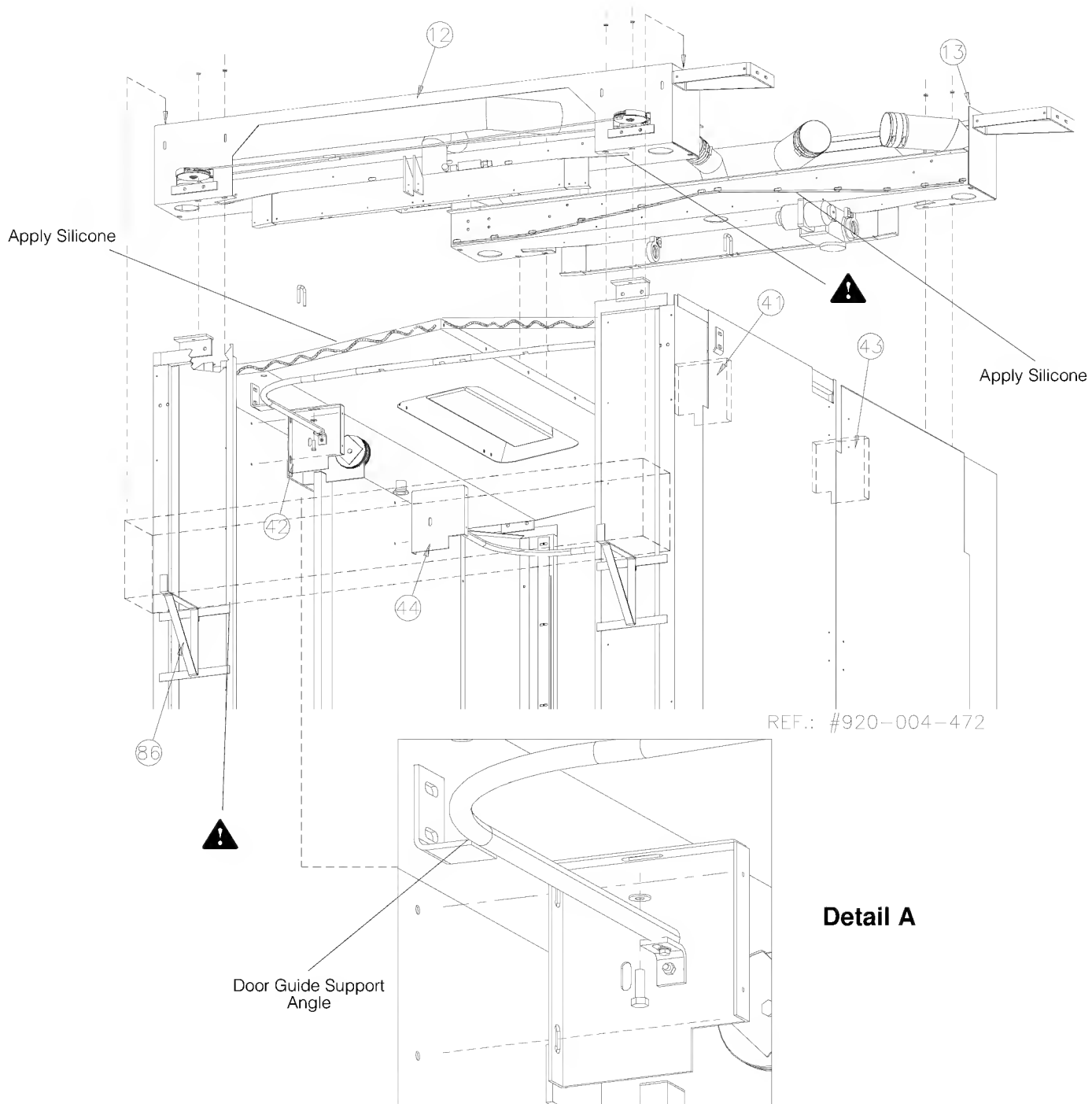
5. Assemble roof sections, using 5/16-18x3/4" bolts, 5/16" washers, 5/16" lockwashers and 5/16-18 nuts provided.
6. Bolt roof sections to side wall studs, using 5/16-18 nuts, 5/16" washers, and 5/16" lockwashers provided. Do not tighten.

**IMPORTANT:** Installation of roof must be completed within 45 minutes maximum, before silicone starts to dry.

This page intentionally left blank.

**>> Crate B** Contents:

- 2 Roof End sections (pre-assembled), Left (12) and Right (13).
- 4 Door Rails Supports (41, 42, 43, 44).
- Exterior and center panels, non-service side (14, 14a, 15) (Option).
- Exhaust Fan (17) (option).
- Oil tanks, left (16), right (18).
- Main Air Duct (19).
- 4 Secondary Drying Ducts (20, 21, 22, 23).
- 2 Air Exhaust Ducts (24, 25).
- 2 Spray Header Inlet Piping (26, 27).
- Traveler System Assembly (28).
- Guard Rails, Non-service side (29), and Service side (30).
- Spray Headers, Non-service side (35) and Service side (36).
- Cabinet Panel, Left non-service side (37).
- Cabinet Panel, Right non-service side (38).
- Cabinet Panel, Left service side (39).
- Cabinet Panel, Right service side (40).
- Door Frames, (45), (46), (47) and (48).
- Door Panels: (45 a), (45 b), (46 a) (46 b); (47 a), (47 b), (48 a) and (48 b).
- Roller Guide (52).
- Spray Header Guide (49) (53).
- Roof Stoppers (54).
- Ventilation Duct Assembly (with gaskets) (55).
- Pulley Guards (56).
- Traveler System Cable (66).
- Traveler System Safety Cable (67).
- Front Service Panels (76) (77).
- Temporary Roof End Mounting Bracket (86).
- Transition Plates (91) (92) (93) (96).
- Transition Plates Supports (93) (94) (95).



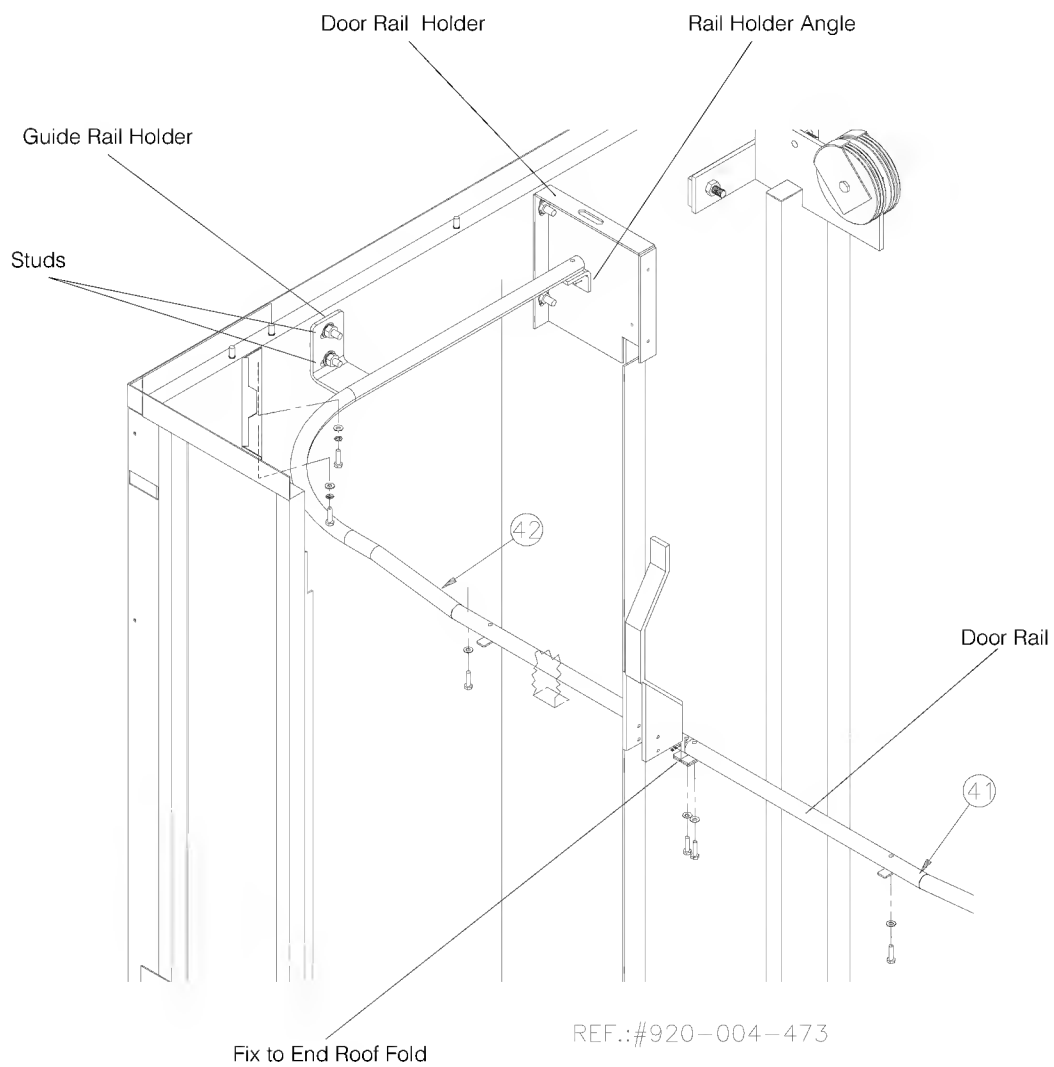
**Figure 3-9. Roof End**

## >> Roof End Figure 3-9



**WARNING - PERSONAL INJURY**  
**HAZARD: Two people are required to install the end roof sections. Using a step ladder, first place roof-end on roof end support brackets, then lift up and place it into position.**

1. Spread a 3/8" (7 mm) bead of silicone on edge of roof (see Figure 3-9).
2. On (both) side(s) of washer, install Temporary Roof End mounting Brackets (86). Position brackets so they are in the highest position (see Figure 3-9).
3. Lift left end roof section (12) and place on temporary roof end support brackets (see Figure 3-9). Lift over edge of roof and sit into position. Align holes and studs.
4. Repeat steps 1 to 3 for right end section (13).
5. On each end, bolt roof end sections to roof using 5/16-18 x 3/4" bolts, 5/16" lockwashers, 5/16" lockwashers provided. Do not tighten yet.
6. Bolt roof end on side wall panel corner studs using 5/16" washers, 5/16" lock washers and 5/16"-18 nuts.
7. Remove temporary roof supports (9) (see Figure 3-9).
8. Tighten all nuts on top of unit (center and edges of roof panels).
9. From inside washer, screw drying ducts to roof (4 top corners).



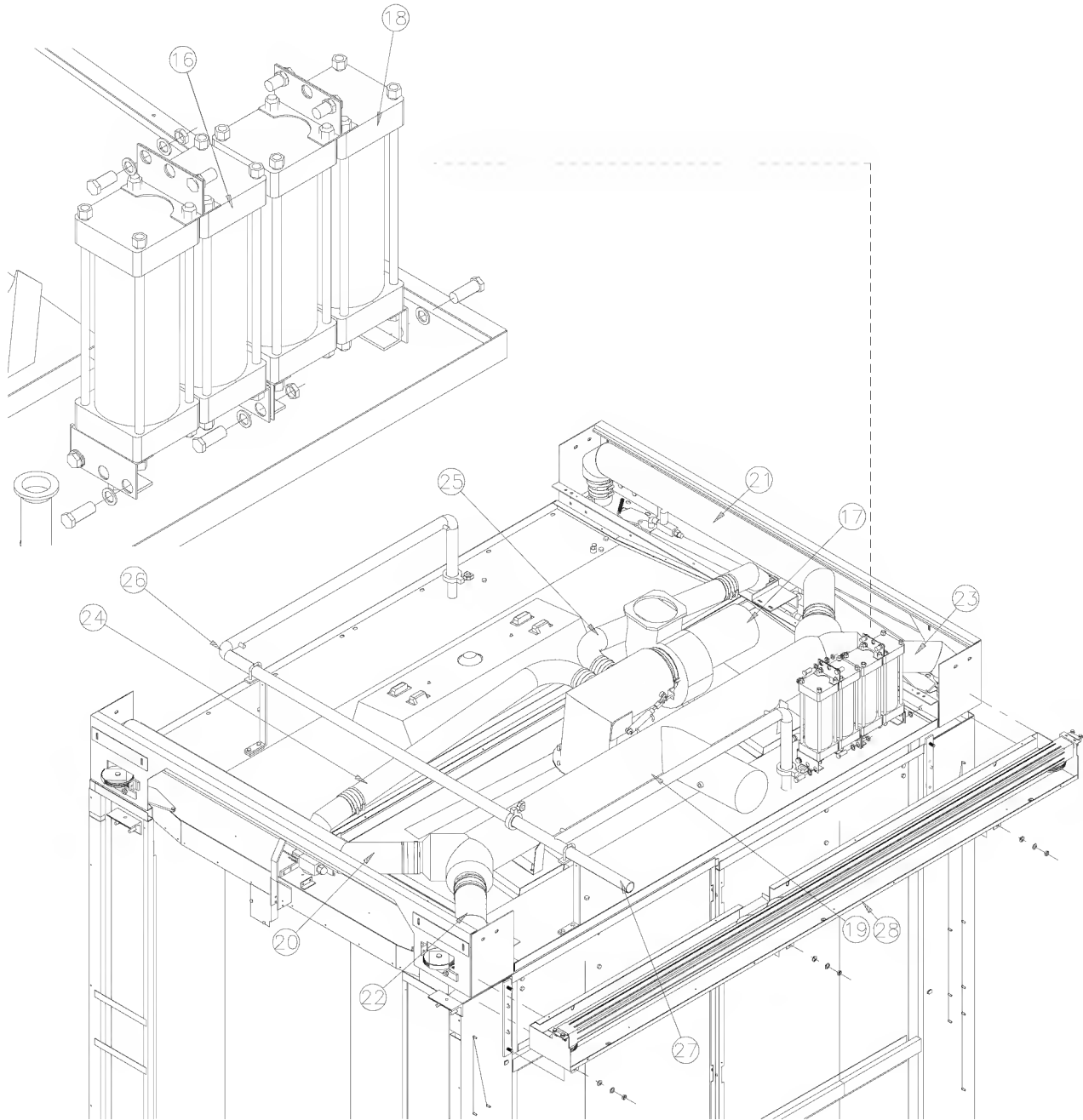
**Figure 3-10. Door Rail Holders**



## **>> Door Rail Holders    Figures 3-9 and 3-10**

1. Install door rail supports (41, 42, 43, 44) on interior cabinet walls and roof, using 5/16-18 nuts, 5/16" washers, 5/16" lockwashers and 5/16" nuts (see Figure 3-10 Detail A).
2. Install four door rails on door guide support angles using nuts and lockwashers (see Figure 3-10).
3. Opposite end of rails should sit on end roof fold. Bolt rails to end roof fold using 1/4-20 x 3/4" nuts, washers and lockwashers (see Figure 3-10).
4. Tighten roof and door guide assemblies in the following order: bolts on top of roof, bolts on guide rail holders (see Figure 3-10).

### Detail A

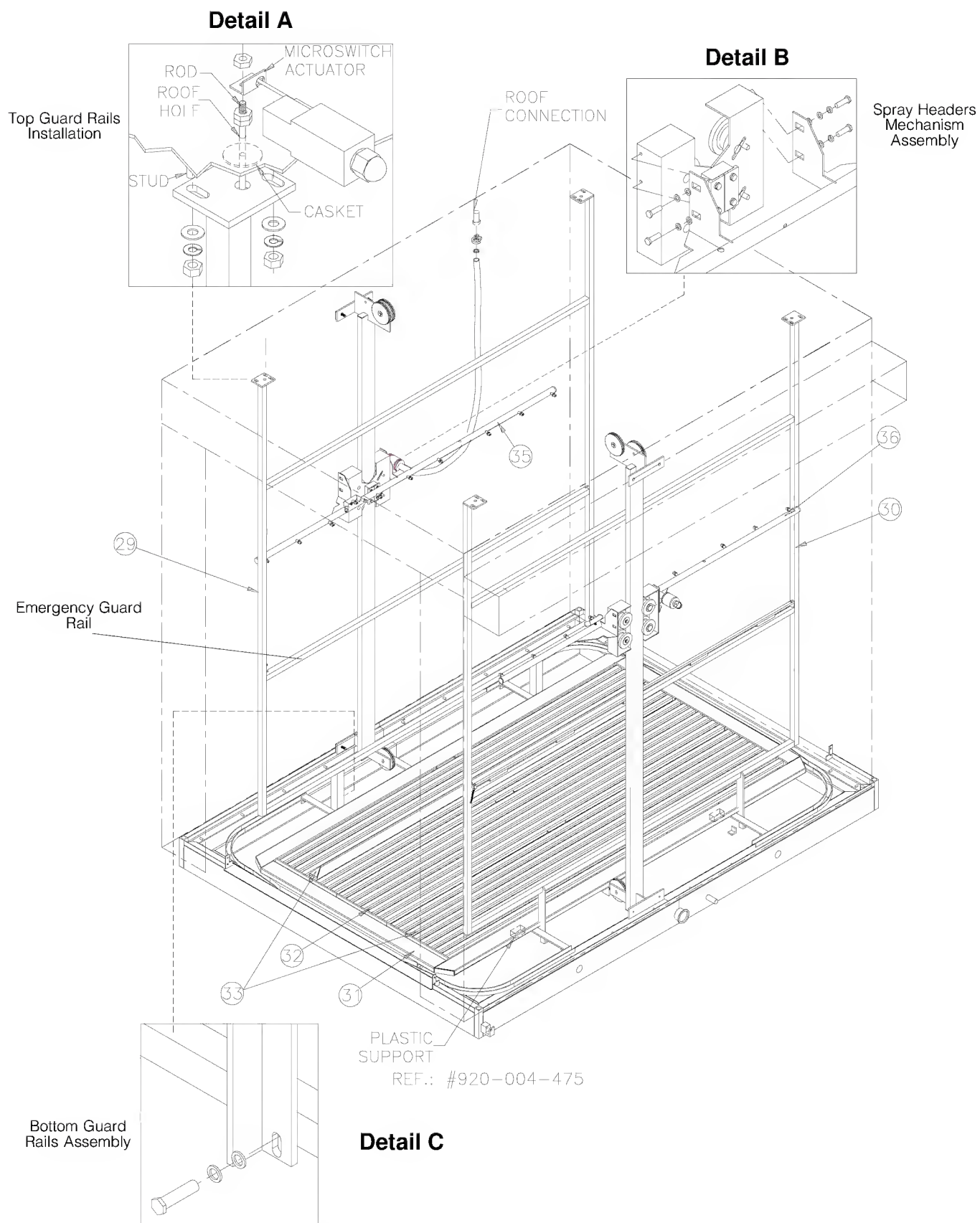


REF.: #920-004-474

**Figure 3-11. Roof Components**

## >> Roof Components **Figure 3-11**

1. On service side, install main drying manifold (19) on roof. Finger-tighten 5/16" washers, 5/16" lockwashers and 5/16-18 nuts.
2. Install exhaust fan (17) (option) on service-side roof using 5/16-18 x 3/4" bolts, 5/16" lockwashers, 5/16" washers, 5/16" nuts and pre-assembled collar and gaskets on damper.
3. Install roof piping with supports (26) on non-service side and (27) on service side, using 1/4" spring washers, 1/4" washers and 1/4-20 x 1/2" bolts.
4. Install secondary drying manifolds (20, 21, 22, 23), using clamps and gaskets already installed on manifolds.
5. Install damper suction piping (24, 25) using collar and gaskets already installed.
6. Install oil tanks (16 and 18) and bolt into place using 5/16-18 x 1" bolts, 5/16" washers 5/16" lockwashers and 5/16-18 nuts (Pneumatic connectors must face Main Drying Manifold) (see Detail A).
7. Tighten hardware.
8. Install traveler drive mechanism (28) on service side wall using studs welded to walls to fix supports. Use 3/8" washers, 3/8" lockwashers and 3/8-16 nuts provided.

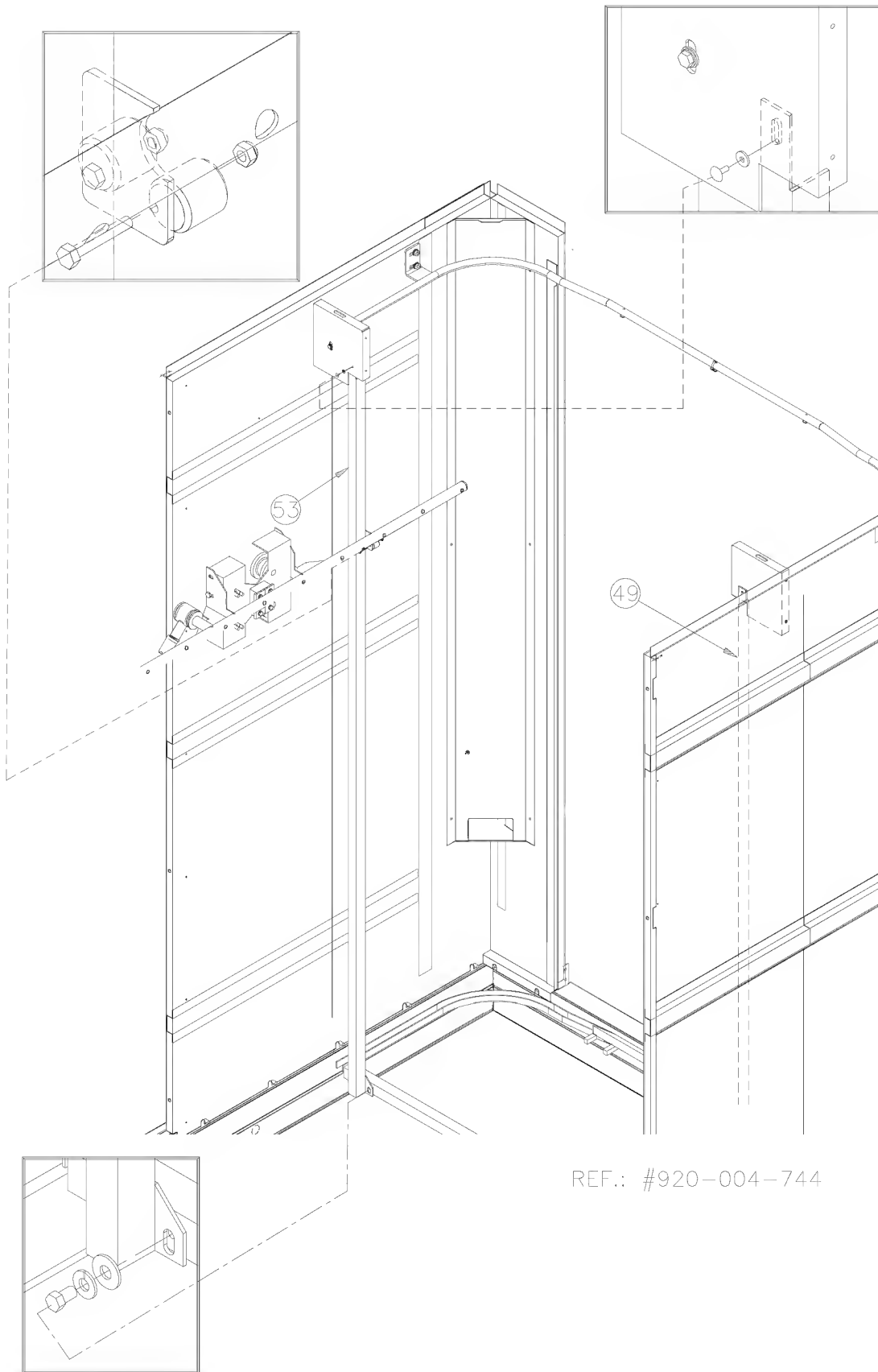


**Figure 3-12. Crate D: Inside Chamber Components**

## >> Emergency Guard Rails **Figure 3-12**

1. Remove floor gratings and floor frame (31, 32, 33).
2. Remove nuts and microswitch actuator from end of guard rail (29, 30).
3. On non-service side, install guard rail (29). Insert top of rod into roof holes.
4. Fix guard rail frame to roof studs. Make sure gasket is inserted between roof and top of guard frame. Finger tighten 5/16" washers, 5/16" lockwashers and 5/16-18 nuts (see Detail A).
5. Finger-tighten hardware to fix bottom of guard rail frame to the floor frame using two 5/16-18 x1" bolts, 5/16" lockwashers and 5/16" flat washers provided (Detail C).
6. Repeat steps 2 to 5 for service side guard rail.
7. Distance between the two guard rails (side to side) should be 46" (1168 mm). Adjust if necessary. Tighten all hardware.
8. Lower guard rail.
9. On top of wash chamber, reinstall nuts and actuator on guard rail rod. Raise actuator until microswitch rod rests in actuator notch. Tighten three nuts to fix actuator. The microswitch should "click" when raised.
10. From inside wash chamber, raise guard rail.
11. On top of washer, check for proper adjustment of actuator. Microswitch should move freely, without clicking, when guard rail is raised.
12. Re-install floor frame (31) and floor gratings (32, 33).

**NOTE:** *Microswitch must be triggered when Emergency Guard Rail is raised.*



REF.: #920-004-744

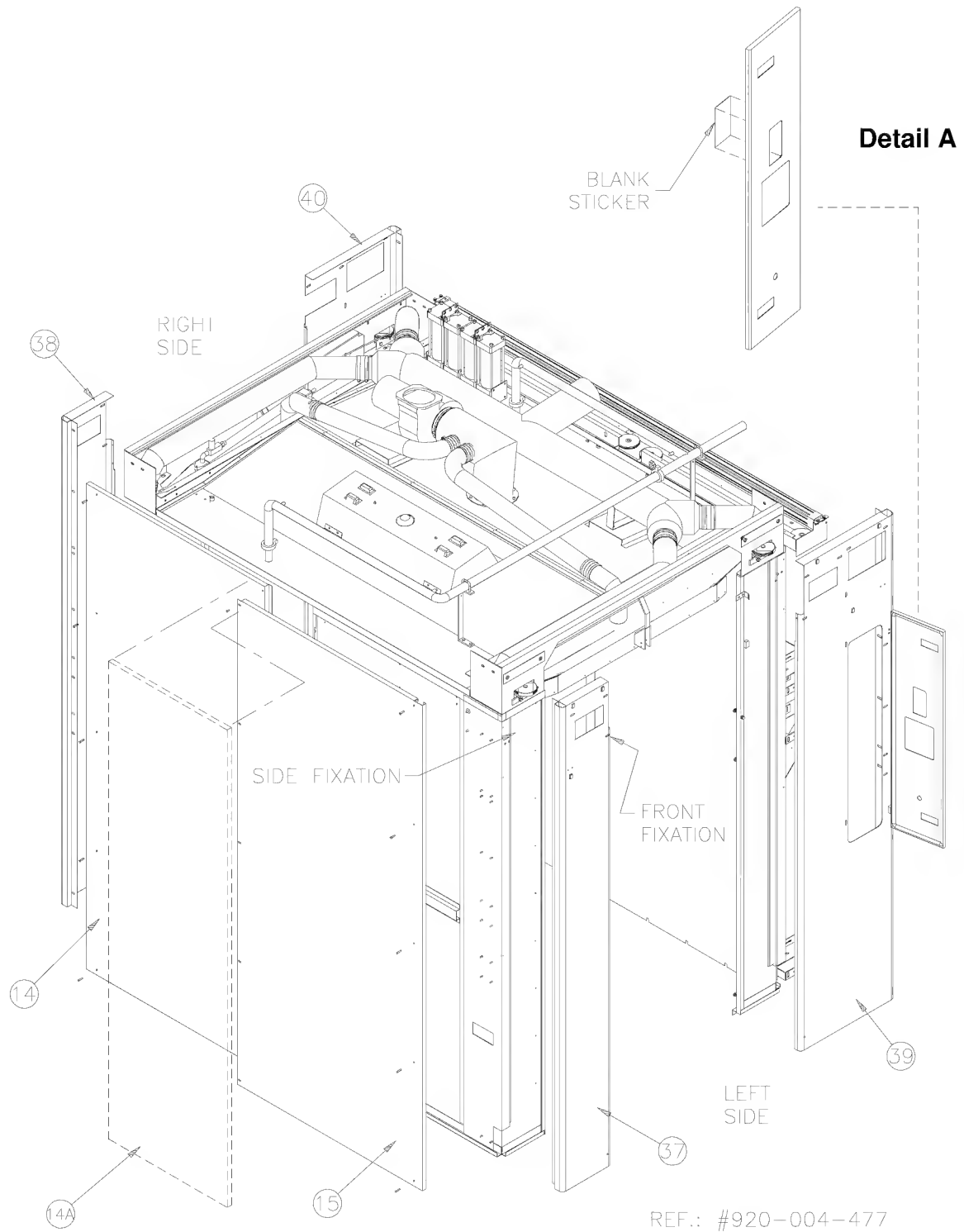
**Figure 3-12A. Spray Headers**

## >> **Spray Headers**    **Figures 3-12 and 3-12A**

1. On non-service side, install spray headers (35) on pre-assembled spray header mechanism, aligning with marks on unit (Figure 3-12, Detail B), using 1/4-20 x 1/2" bolts provided securing plate, 1/4" washers and 1/4" lockwasher on mechanism.
2. Connect end of hoses to roof connections, using clamps and gaskets provided. Prior to tightening clamps, twist hose toward cabinet approximately 1/2 turn. Tighten all clamps. Verify that hose is close to side wall. Loosen and twist 1/2 turn until hose moves freely along the wall.
3. Install spray header guide (49) using 8-32 x 3/8" screw and 3/16" washer on top; fix bottom of guide using 5/16" washer and 5/16" lockwasher (Figure 3-12A).

*NOTE: Make sure guide fold is inserted between the two plastic roller guides fixed to spray header.*

4. Repeat steps 1 and 2 for service side spray headers (36) and spray header guide (53) (Figure 3-12A).



**Figure 3-13. External Cabinet Corners**



## >> External Cabinet Corners **Figure 3-13**

*NOTE: Match external cabinet number to corresponding number on cabinet side.*

1. Install cabinet control side panel (39 and 40) using two 1/4-20 x 3/4" bolts, (1/4" washers and lockwashers, 1/4-20 nuts and two 10-32 x 3/8" screws.
2. Install cabinet non-control side panel (37 and 38), using 1/4" washers, 1/4" lockwashers and 1/4-20 nuts.
- Non-service side panels option installation:
3. Install exterior right non-service side panel (14), using 10-32 x 1-1/4" screws and 3/16 washers (option).
4. Install exterior center panel (14a for 130L) using 10-32 x 1-1/4" screws and 3/16" washers (option).
5. Install exterior left non-service side panel (15) using 10-32 x 1/4" screws and 3/16" washers (option).

*NOTE: Control Configuration. If controls have been changed from one side to the other, align control with control door window as follows:*

1. Close locks on control door.
2. Place control next to transparent membrane as if to operate control touch pad.
3. Align control with door window.
4. Tighten nuts.
5. Use blank sticker to cover printer window on secondary control side (see Detail A).

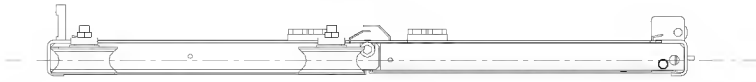
## >> Control Panel Adjustment **Figure 3-13**

*NOTE: If controls have been changed from one side to the other, align control with control door window, as follows:*

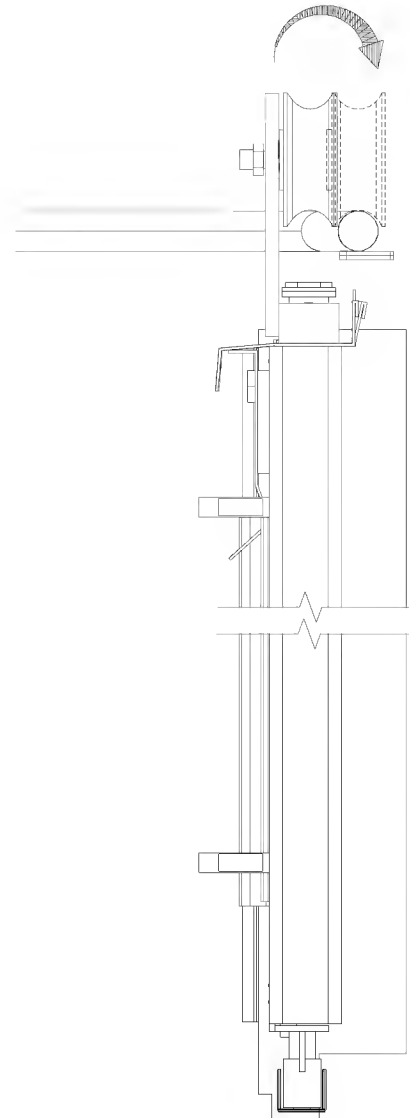
1. Close locks on control door.
2. Place control next to transparent membrane as if to operate control touch pad (see Figure 3-13, Detail A).
3. Align control with door window.
4. Tighten nuts.
5. Use Blank Sticker to cover printer window on secondary control side.

*NOTE: Control Configuration verification will be performed later in Section 5, Start-Up Test.*

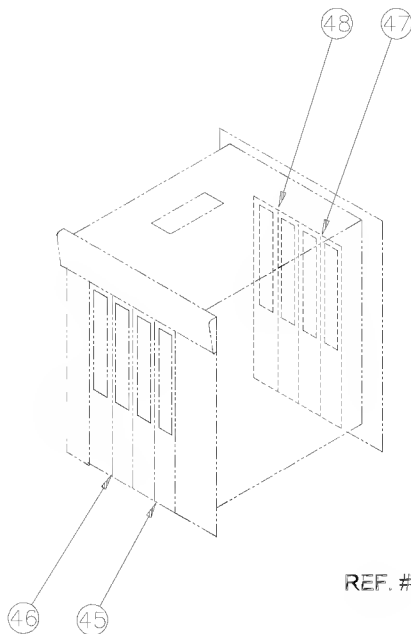
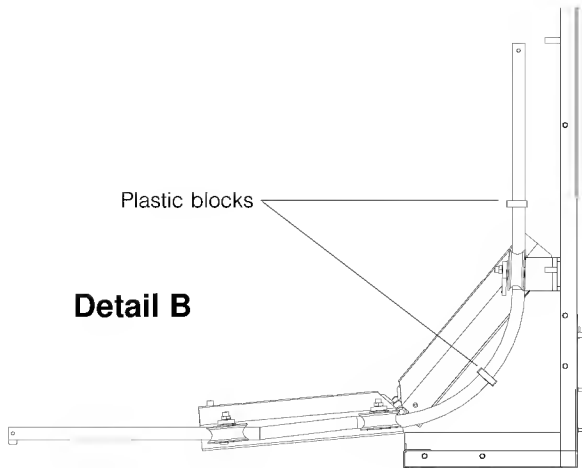
**Detail A**



**Detail D**



**Detail B**



REF. #920-004-649

**Detail C**

**Figure 3-14. Door Frames**

## >> Door Frames **Figure 3-14**



**WARNING - PERSONAL INJURY HAZARD:** Doors are heavy. Installation of doors requires two people.



**WARNING - PERSONAL INJURY HAZARD:** When doors are closing, a pinch point is created at the hinges. Keep fingers away from door frame hinges in order to prevent pinching.

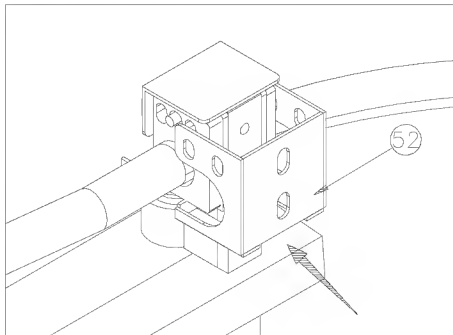
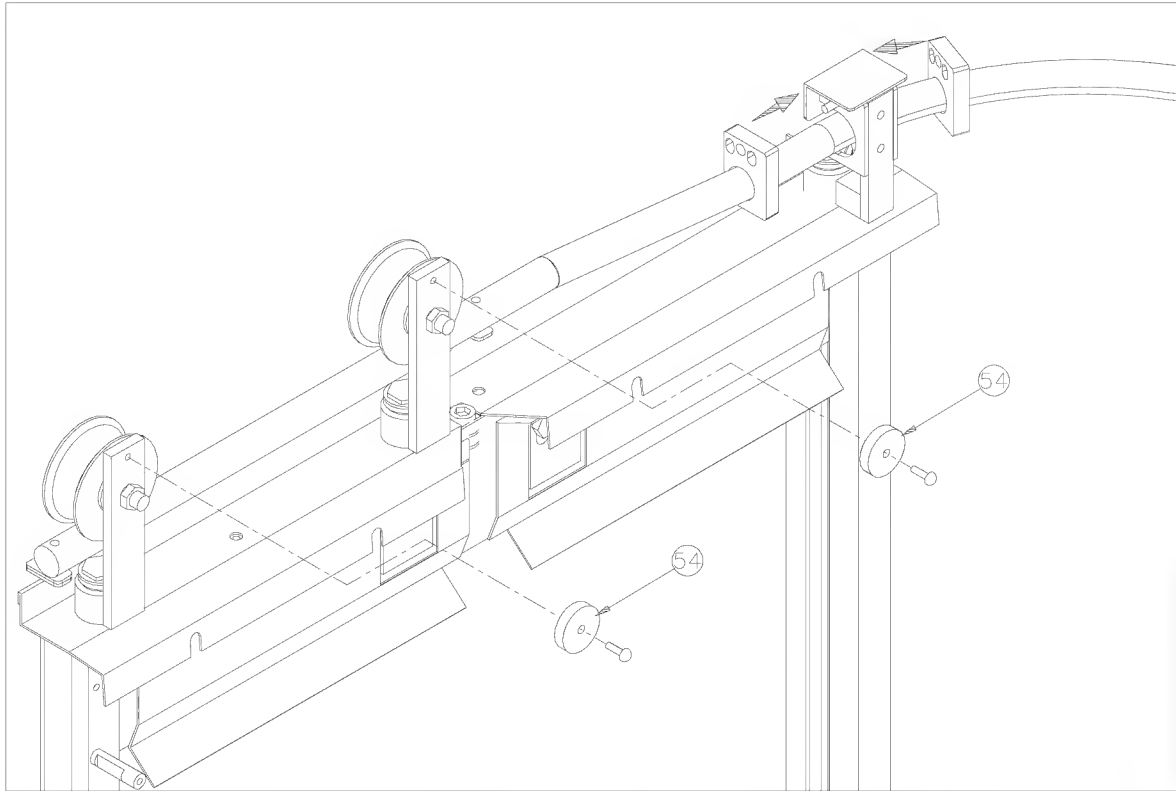


**WARNING - PERSONAL INJURY HAZARD:** Keep hands/fingers away from closing doors in order to prevent crushing between the two doors.

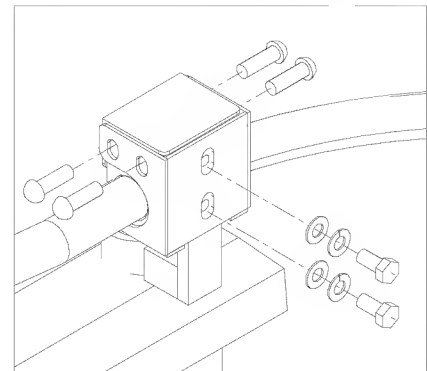


**WARNING - PERSONAL INJURY AND/OR EQUIPMENT HAZARD:** Do not remove protective paper covering from front of doors until door installation is complete. Paper secures exterior glass in place during transport and installation.

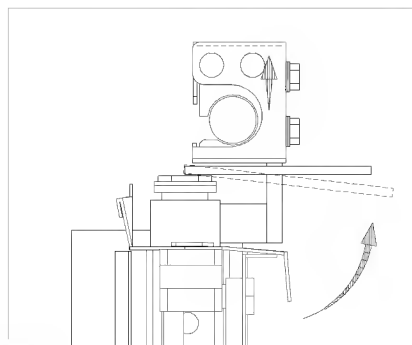
1. Align top pulleys (see Detail A).
2. Install door frame (45) halfway into corner. Make sure bottom hinges are aligned with door opening (see Detail B).
3. From inside unit, lift door frame placing bottom rollers into door rails (see Detail C).
4. Lift door frame to install top rollers and adjust door frame (see Detail D).
5. Install door frame (46) following the same procedure.
6. Repeat steps 1 to 4 for door frames (47) and (48).



**Detail A**



**Detail B**



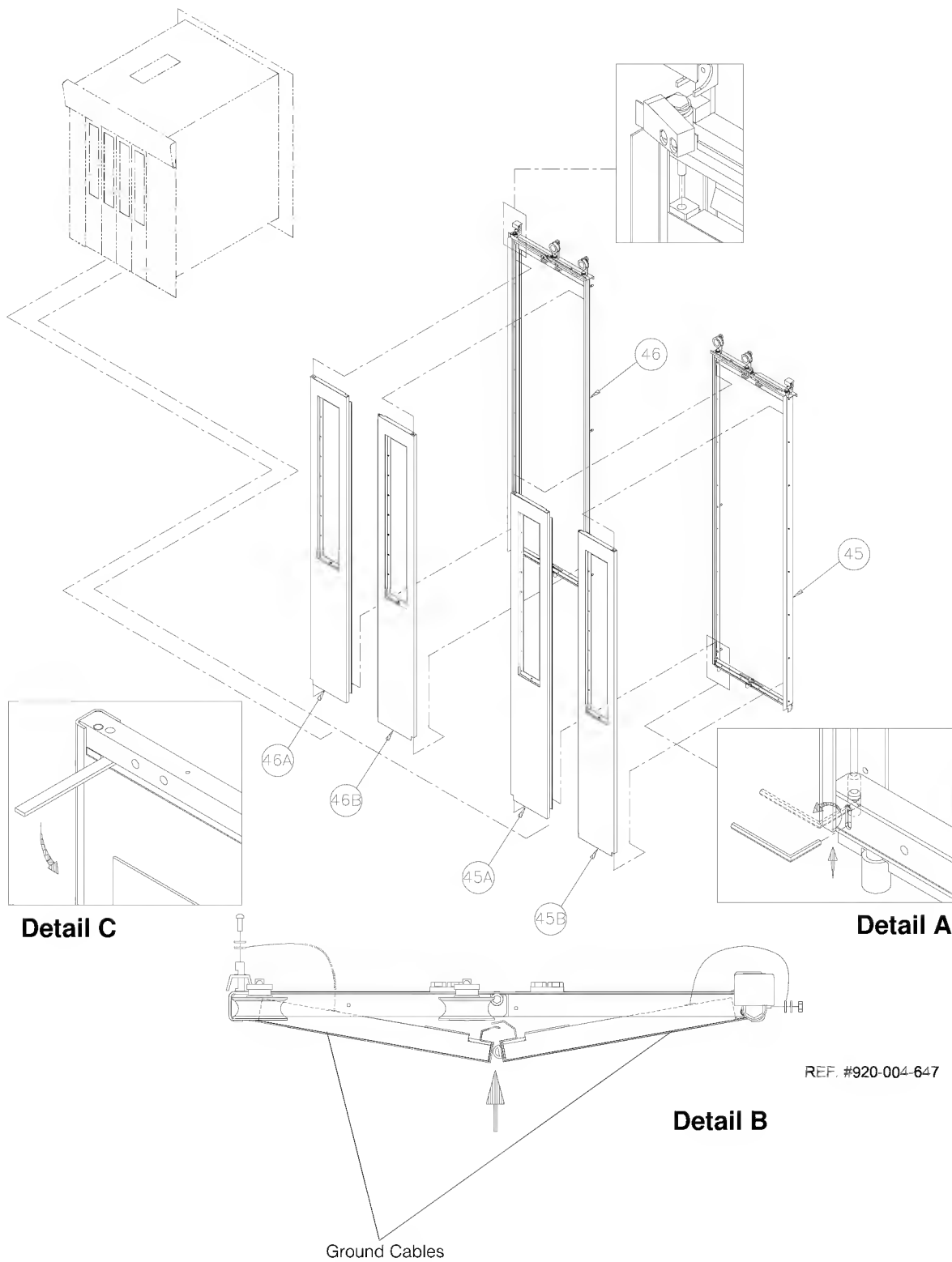
**Detail C**

REF.: #920-004-648

**Figure 3-15. Roller Stoppers**

## **>> Roller Stoppers Figures 3-14 and 3-15**

1. Slide door frame inside washer.
2. Remove plastic tape from plastic blocks (see Figure 3-14, Detail B).
3. Place plastic blocks on both sides of pivoting arm (see Figure 3-15).
4. Push and snap cover (52) onto plastic block and pivoting arm (see Figure 3-15, Detail A).
5. Fingertighten two (1/4-20 x 1/2") bolts, washers and lockwashers; and four (10-32 x 3/4") screws in place (see Detail B).
6. Pry slightly to make sure cover is flush with top of pivoting arm (see Detail C).
7. Tighten all bolts and screws.
8. Install roof stopper (54) on pulley support. Use 10-32 x 1/2" screws (see Figure 3-15).
9. Slide doors on rails and verify that pivots and pulleys slide freely. Make sure stoppers slide under ventilation duct screws.
10. Repeat steps 1 to 5 for each door frame.



**Figure 3-16. Door Panels**

## >> Door Panels **Figure 3-16**



**WARNING - ELECTRIC SHOCK HAZARD:** Fasteners and star washers are used to ensure protective bonding continuity. Always re-install any star washers which may have been removed during installation or servicing.



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT HAZARD:** Do not remove adhesive tape from corner spring traps before installation of doors is completed.



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT HAZARD:** Do not remove protective paper covering doors until installation is complete. Paper secures exterior glass in place during transport and installation.

1. Install door panel (45A). Align top and bottom bolts. Slightly lift door panel to adjust into lower rod by pushing door panel slightly at the bottom. Tighten bottom screw using a 3-32 Allen hex key. Lock in upper position (see Detail A).

2. Install door panel 45B following step 1.

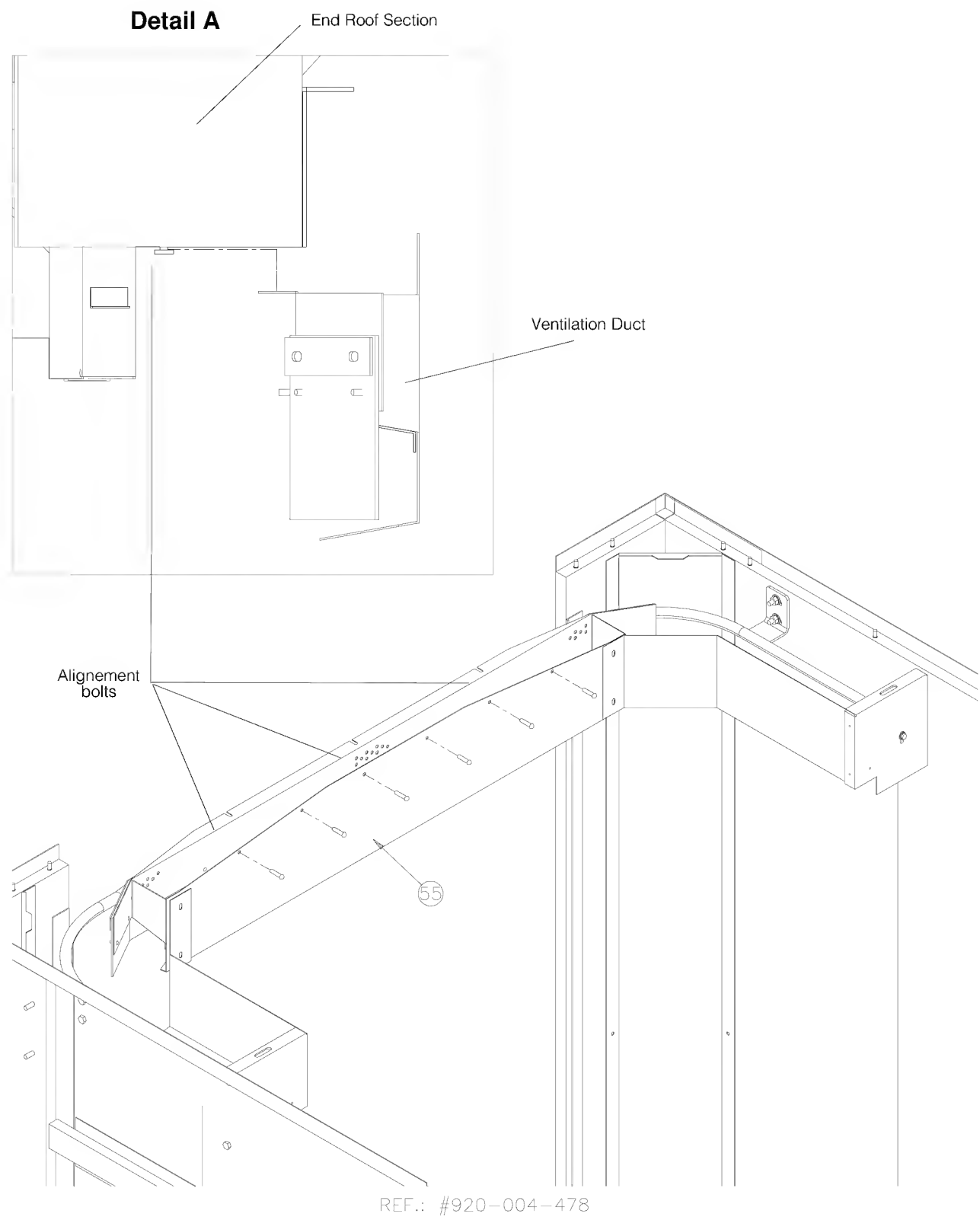
3. Install ground cables (see Detail B).

4. To close door sections, fold left side panel into right side panel, then press panels firmly into place (see Detail B).

*NOTE: After installing corner spring trap guides, remove adhesive paper from spring trap.*

5. Repeat steps for door panels 47A, 47B, 48A and 48B (not shown).

**IMPORTANT:** After completing installation of doors, insert a screwdriver between door frame and door panels to pry doors downward to make sure doors are adjusted in place (see Detail C).



**Figure 3-17. Ventilation Duct**

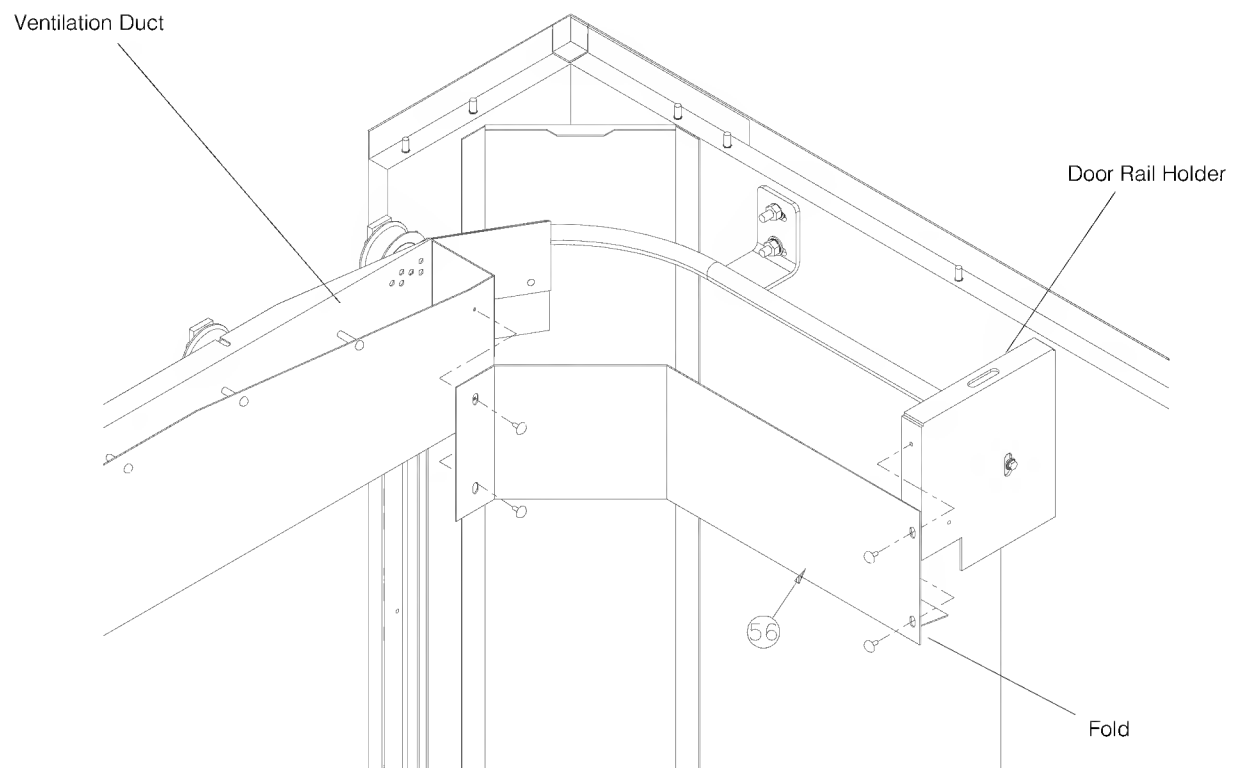


## >> Ventilation Duct **Figure 3-17**

1. Completely slide doors inside washer.
2. Install ventilation duct (55) inside wash chamber, matching holes on end roof section, using 8-32 x 3/8" screws.
3. Slip duct gasket over door top baffle.

**IMPORTANT:** Make sure that Ventilation Duct slides and fits between the three alignment bolts and end roof section.

4. Repeat steps 1 to 3 on opposite end of washer.
5. Verify that doors open and close freely.

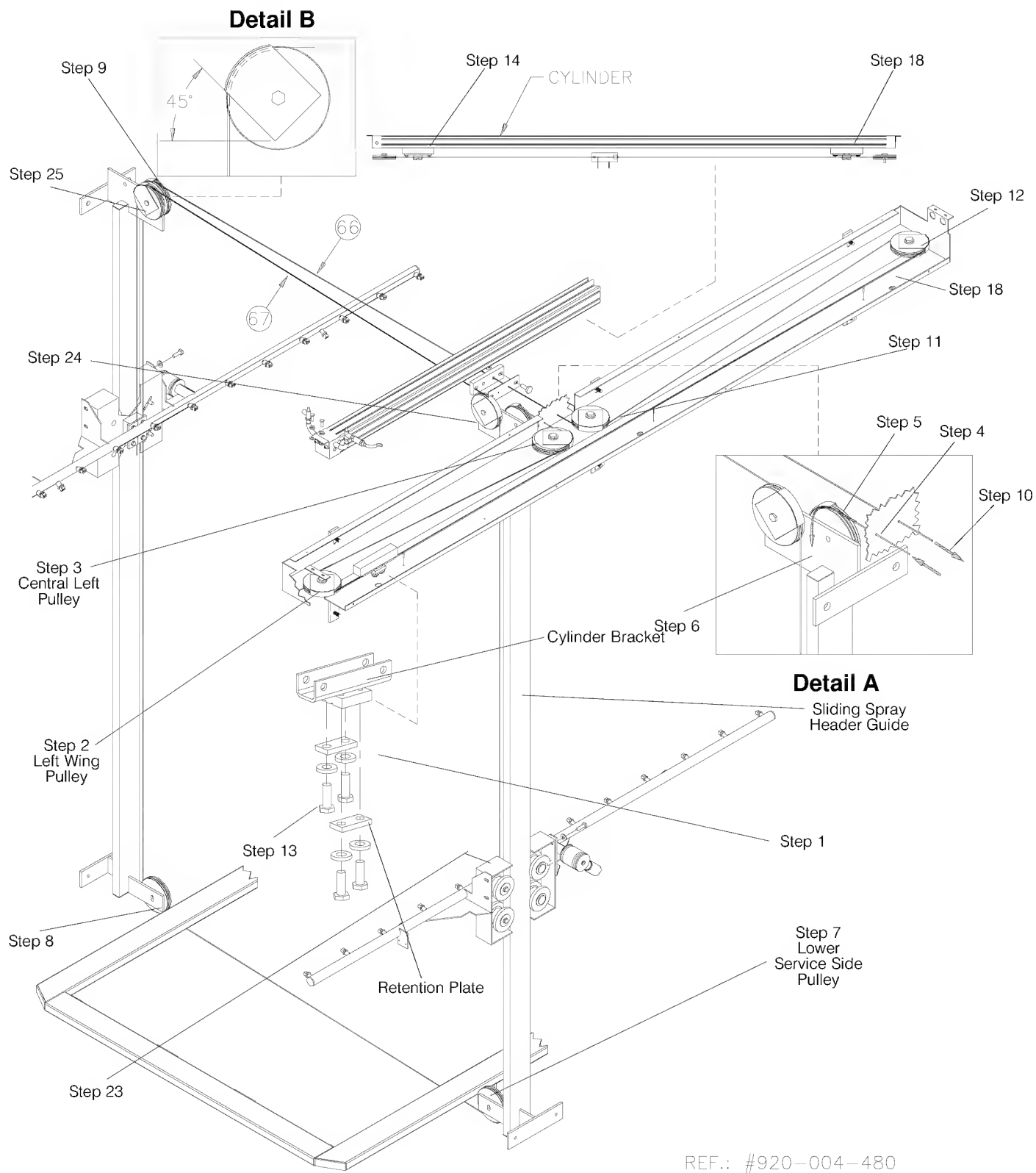


REF.: #920-004-479

**Figure 3-18. Pulley Guards**

## **>> Pulley Guards    Figure 3-18**

1. Install pulley guards (56) in each corner of the unit, using four 8-32 x 1/4" screws to secure into position. Make sure that fold is facing down.
2. Check that doors open and close freely.



**Figure 3-19. Traveler Cable**

## >> Traveler Cable Figures 3-19 and 3-20

*NOTE: Remove floor gratings from bottom of wash chamber.*

Refer to numbers indicated on Figures 3-19 and 3-20.



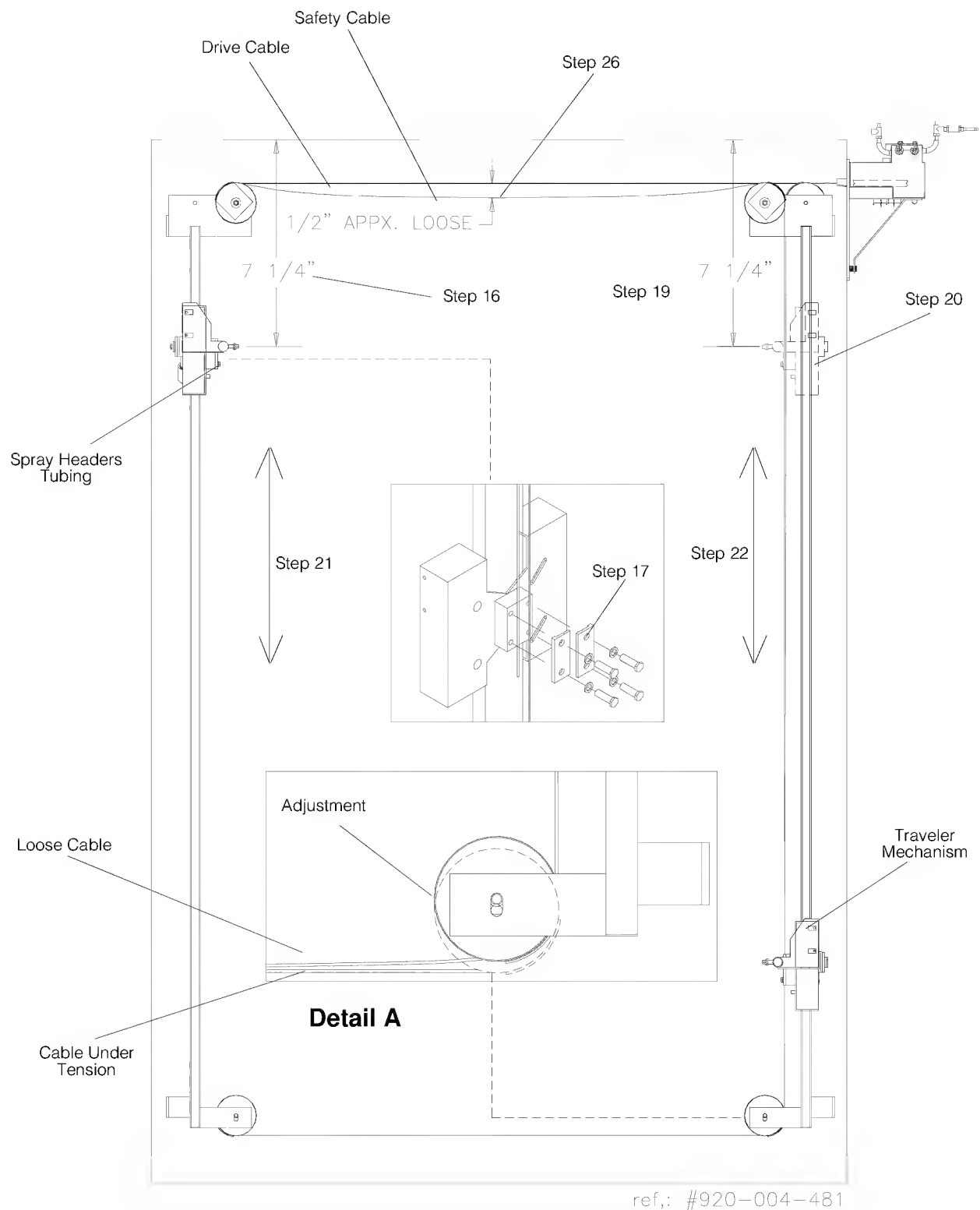
**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE**  
**HAZARD - Only fully qualified service personnel should assemble and /or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales or service representative regarding service options.**

### • From outside, on service side:

1. To attach cable (66) to cylinder bracket, run it under retention plate from left. Be sure cable is inserted into retention plate groove. Leave approximately 1" (25.4 mm) of slack in cable. Tighten bolts (Step 1).
2. Insert cable between pulley guard and left wing pulley (Step 2).
3. Insert cable between pulley guard and central left pulley (Step 3).
4. Pass cable through left wall hole (Detail A, Step 4).

### • From inside unit:

5. Inside washer apply tension to cable (Detail A). Position cable around top left inside pulley. **Make sure cable does not touch guard.** Guards should be positioned at a 45° angle (Detail B) (Step 5).
6. Insert cable between guard and left pulley (pulley nearest to wall seen from inside) (Step 6).
7. Run cable along service side wall. **Pass cable between spray header and roller mechanism.** Pass cable between lower service side pulley. Verify pulley is adjusted at highest point; if not, loosen and adjust to highest point (Step 7) (see also Figure 3-18).
8. Run cable beneath floor frame until it reaches low non-service side pulley. Insert cable between guard and pulley. Be sure cable is not blocked between floor frame and sump frame (Step 8).
9. **Pass cable between spray header and roller mechanism.** Pass cable through upper non-service side right pulley. Apply cable tension. Be sure cable is correctly inserted in all pulleys and not touching any pulley guard (Step 9).
10. Run cable across toward service side wall. Run cable through left hole (seen from inside) in plastic block (Step 10) (Detail A).
- From outside unit:
11. Pull out cable from hole and insert between guard and right central pulley (Step 11).
12. Insert cable between guard and right wing pulley on traveler mechanism support (Step 12).
13. Secure cable end to retention plate. Apply tension and tighten bolts (Step 13).
14. Position retention plate block on service side left end of cylinder. Be sure that retention plate is at the end of the stroke (Step 14).
15. Re-install floor gratings (Step 15).



**Figure 3-20. Traveler Safety Cable**

- From inside of unit, on service side:
- 16. Position center of non-service side spray header tubing at 7-1/4", +/- 1/8" (18.4 cm, +/- 3 mm) from ceiling (Step 16) (see Figure 3-20).
- 17. Insert cable into right retention block and tighten bolts (Step 17) (see Figure 3-30).
- **From outside washer:**
- 18. Move cylinder cable retention plate to right end (Step 18) (see Figure 3-19).
- From inside unit, on service side:
- 19. Lift service side traveler mechanism until spray header tubing is 7", +/- 1/4" (18.4 mm +/- 3 mm) from ceiling (see Figure 3-20, Step 19).
- 20. Insert cable into left retention plate block and tighten bolts (see Figure 3-20, Step 20).
- 21. From inside of unit, on non-service side, lower spray header to lowest point possible. Verify that mechanism does not touch lower part of support or pulleys before cylinder has completed a full course (from outside unit). Traveler movement should be stopped by cylinder stroke (Step 21).
- 22. Repeat the same procedure on service side. Verify that cable is not in contact with guards (Step 22).

*NOTE: To adjust cable tension, untighten one of the lower pulleys, and lower it into slot until snug tension is reached (see Detail A).*

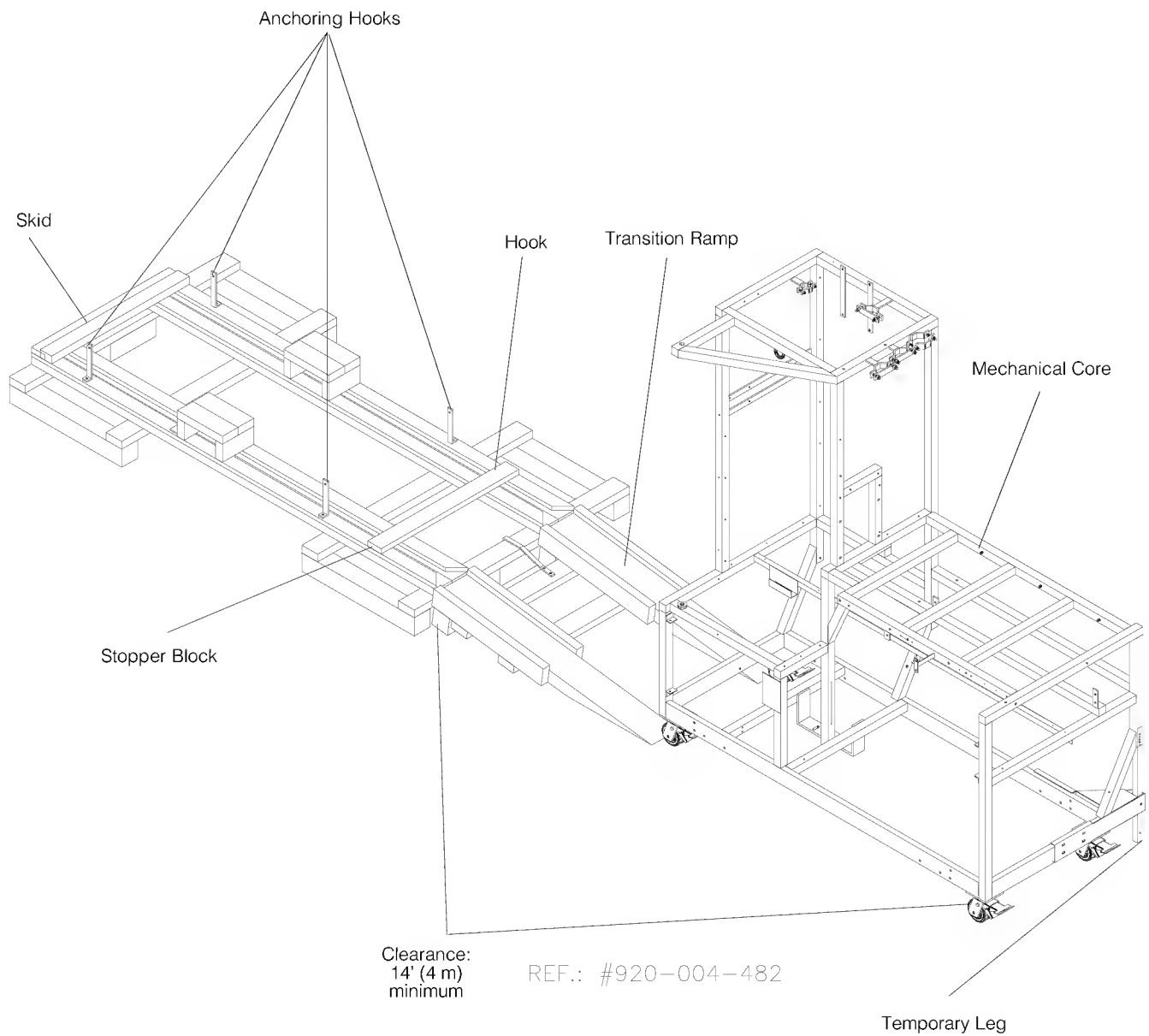
*NOTE: Do not overtighten cable. Overtightening might damage system components.*

## **>> Traveler Safety Cable      Figures 3-19 and 3-20**

- **From inside unit:**
- 23. On traveler mechanism, on service side, insert Safety Cable (67) between retention plate and mechanism. Leave approximately 1/2" (10 mm) of free cable. Tighten plate with bolts (Step 23).
- 24. Position traveler halfway. Insert security cable between guard and right pulley on service side (Step 24).
- 25. Run cable across non-service side and insert between guard and left pulley on non-service side (Step 25).
- 26. On non-service side, insert cable between retention plate and mechanism. Tighten retention plate slightly. Pull out cable from center until there is 1/2" (10 mm) slack on safety cable. Tighten bolts (Step 26).

*NOTE: Tension should be on traveler cable and not on traveler safety cable.*

*NOTE: If an adjustment is made to the traveler cable, the traveler security cable must also be adjusted and checked.*



**Figure 3-21. Slide Mechanical Core**



**>> Crate C** Contents:

- Mechanical Core (65).
- Flexible Rubber Hose (58).
- Flexible S/S braided Hose (59).
- 1-1/2" Elbow (60).
- Suction Pump Drain Line (107).
- Drain Valve support (108).

////////////////////  
**Mobile Mechanical Core**  
////////////////////

*NOTE: Before moving mobile mechanical core, check center of gravity (see Figure 3-22).*

**>> Move and remove skid**

**Figure 3-21**

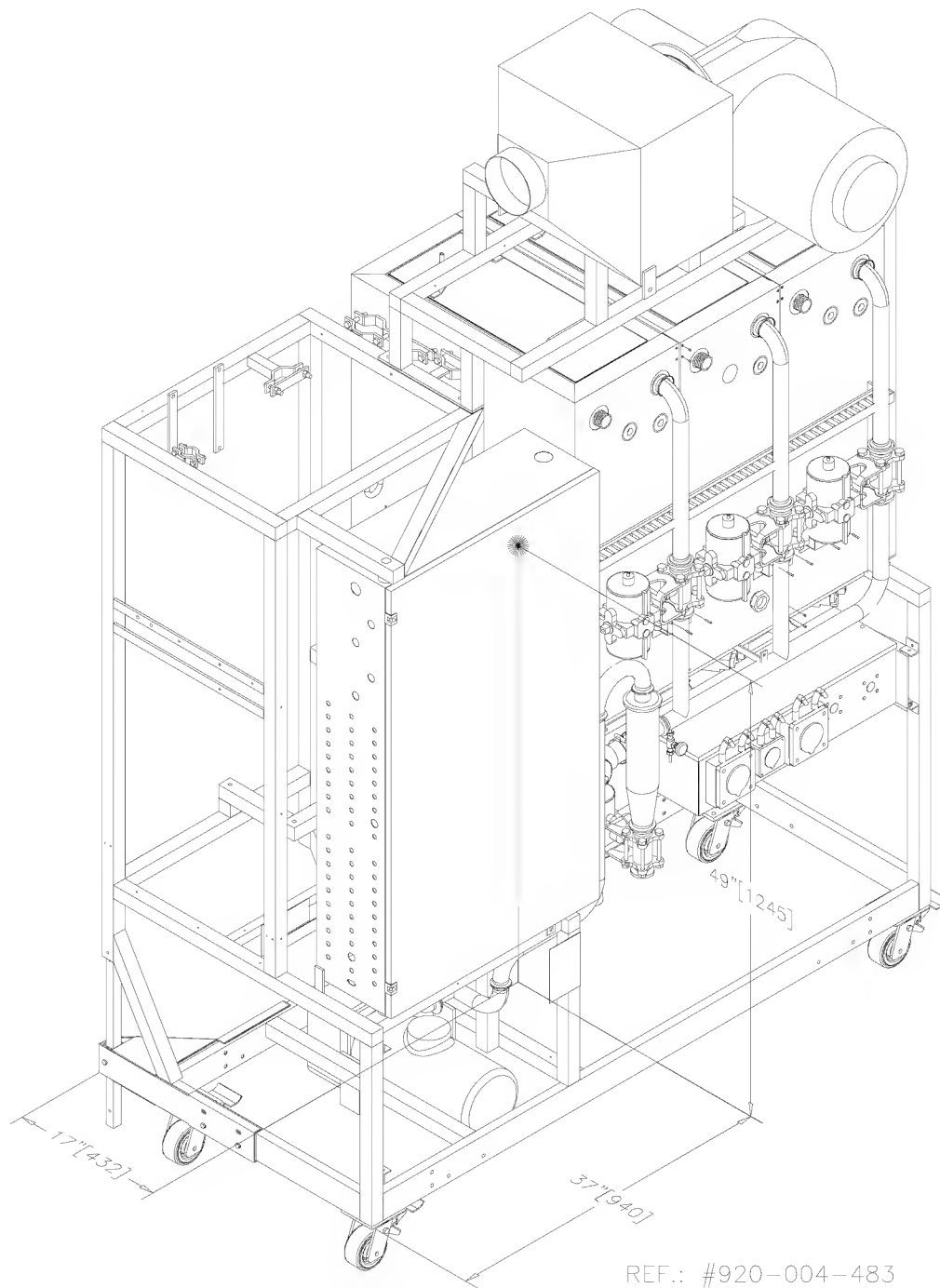


**WARNING - PERSONAL INJURY  
AND/OR EQUIPMENT DAMAGE  
HAZARD - When moving the unit,  
use a forklift.**

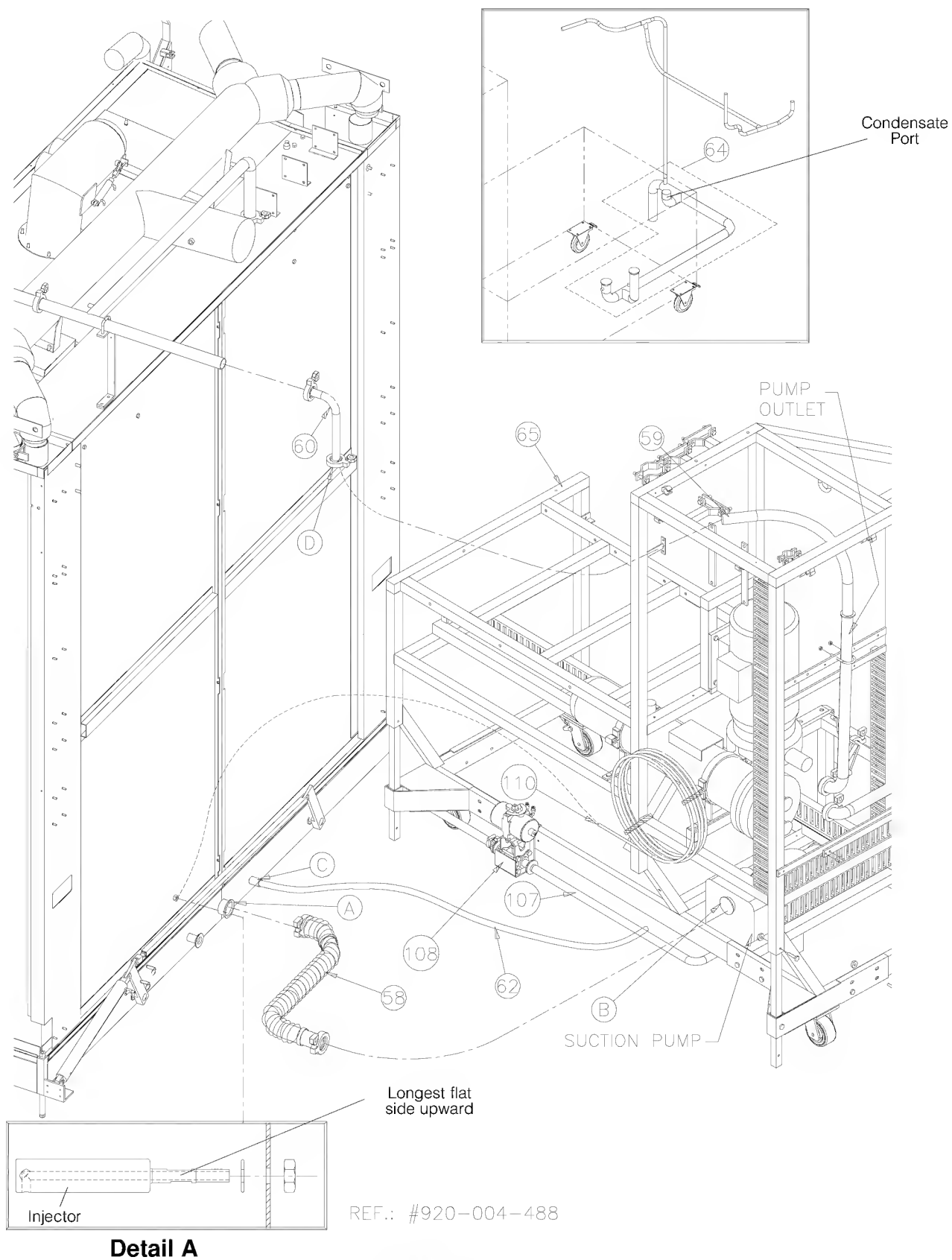


**WARNING - PERSONAL INJURY  
AND/OR EQUIPMENT DAMAGE  
HAZARD - Before moving me-  
chanical core, always lower secu-  
rity legs located on inside frame  
corners.**

1. With mobile mechanical core still mounted on skid, use a forklift to move mechanical core to installation site.
2. Remove stopper block at crate end and middle stopper blocks to free wheels. Remove anchoring hooks, two on each side of mechanical core.
3. Use transition ramp provided inside crate. Place ramp against unit frame and secure with hook already installed on ramp (see Figure 3-21).
4. Lower temporary legs (see Figure 3-21).
5. Turn wheels at a 90° angle facing ramp and unlock.
6. Roll mechanical core close to unit service side as indicated on Equipment Drawings 122-998-076 for 130 and 920-003-480 for 130L.



**Figure 3-22. Mobile Mechanical Core - Center of Gravity**



**Figure 3-23. Mechanical Core Piping**

This page intentionally left blank.

## >> Mechanical Core **Figure 3-22, 3-23 and 3-24**



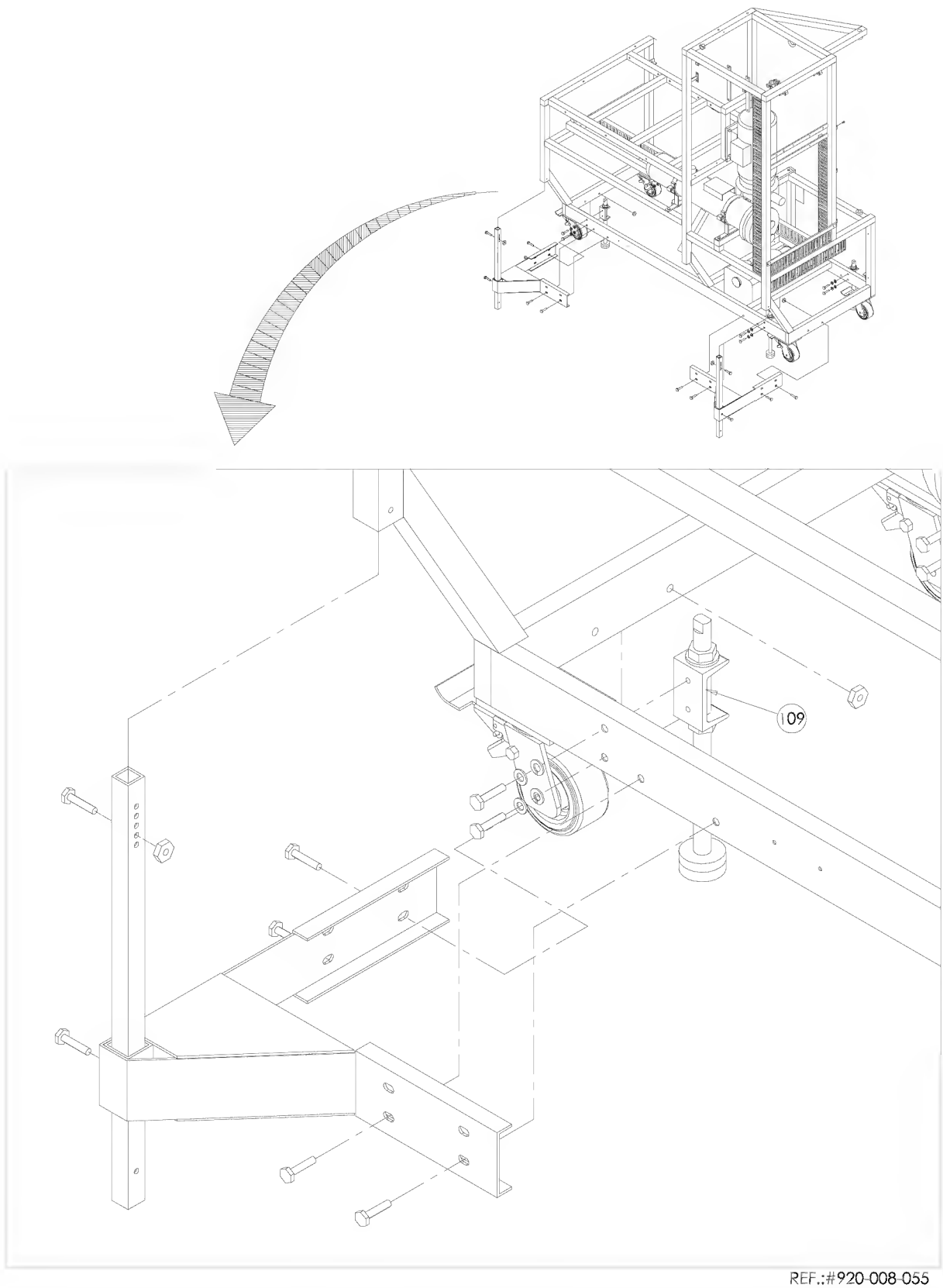
**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD - Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales or service representative regarding service options.**



**CAUTION: Use pliers to tighten quick-disconnect clamps. Pump damage may result if air passes through connections.**

1. Bring Mechanical Core (65) as close to installation site as possible, at approximately 6' (1820 mm) from unit on a flat surface. Allow sufficient space to make connections between mechanical core and washer.
2. Install drain valve support (108) on Mechanical Core frame using two 1/4-20 bolts, two 1/4" lockwashers and two 1/4" washers.
3. Connect drain line (107) inlet to suction pump, using clamp provided.
4. Connect suction hose (58) to sump outlet (A) using pre-assembled clamps and gaskets. This joint must be perfectly done and tightened.
5. Connect flexible hose (59) to pump outlet using pre-assembled clamps and gaskets.
6. Install elbow (60) on roof piping using pre-assembled clamps and gaskets.
7. Install sump siphoning tubing (62) on sump tube (C). This joint must be perfectly done and tightened.
8. Move Mechanical Core as needed to make connections.
9. Connect main drain as follows:
  - a) Locate main drain and direct toward facility, 4" (101 mm) drain provided. Washer main drain should not be directly connected to building drain (2" [51 mm] minimum air gap required).
  - b) Connect flexible hose to condensate port on drain line (64). Connect other end of hose to exhaust fan (option) or the HVAC (not by STERIS) condensate drain port (see Figures 3-23 and/or 3-24). This hose goes through traveler mechanism support hole (28) (see Figure 3-11).
10. Connect suction pump piping (58) to suction pump inlet (B). This joint must be perfectly done and tightened.
11. Connect flexible hose (59) to unit (D).
12. Connect suction hose (58) to sump.
13. Connect hose end (62) to valve assembly.
14. Remove injector from transparent hose (110) (see Figure 3-24) (if automatic decontam option).
15. From inside washer, insert injector into O-ring. Insert injector through service panel hole.
16. From outside unit, secure injector to panel using nut provided. Make sure that the longest flat end of injector is facing up when tightening nut (see Figure 3-23, Detail A).
17. Connect hose (110) to injector.

**IMPORTANT:** If these collars are loosened, make sure that they are very well tightened during re-assembly.



**Figure 3-24. Leveling Legs**

## >> Leveling Legs **Figure 3-24**



**WARNING - PERSONAL INJURY  
AND/OR EQUIPMENT DAMAGE**  
**HAZARD:** When installation of  
Mechanical Core is completed,  
lock wheels into position.

1. Loosen two bolts holding temporary leg to the support and to the frame.
2. Remove temporary legs by loosening four bolts holding temporary leg support to Mechanical Core frame.
3. Repeat steps 1 and 2 for second leg.
4. Install leveling legs (109) on Mechanical Core frame using 5/16 x 1-1/2" bolts and 5/16" spring washers.
5. Two leveling legs must be installed inside frame on side facing unit (see Figure 3-24). On opposite side of frame, install the other two leveling legs (on exterior of frame).

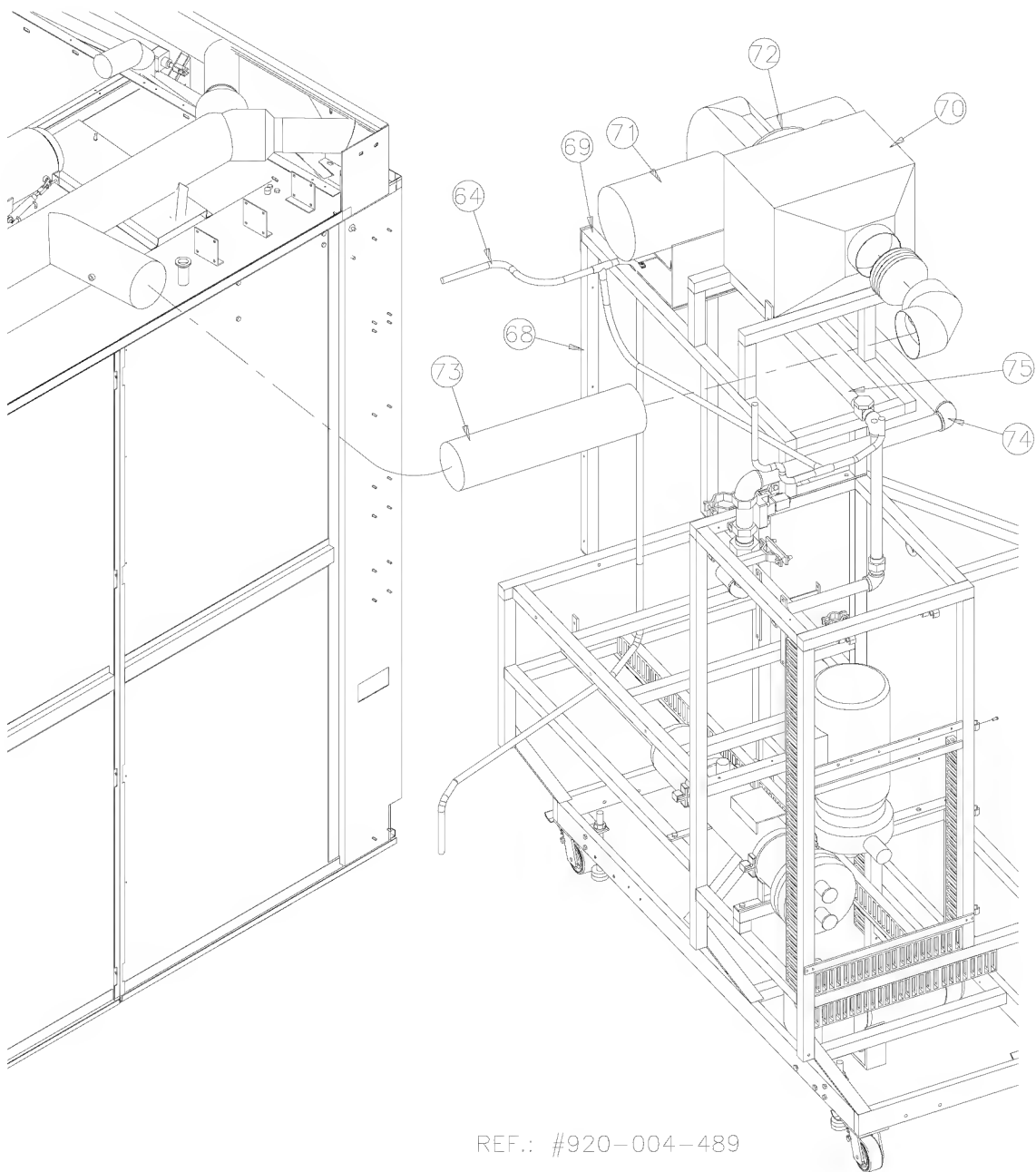
*NOTE: Use a locking plier or adjustable wrench to lock top of rod on leveling legs when tightening nuts.*

*NOTE: Leveling legs must not be installed on Mechanical Core if a Seismic Tie-down kit is being installed*

6. Move Mechanical Core to its final position.

**IMPORTANT:** Push Mechanical Core from the middle section, NOT from the top. Refer to Figure 3-22 to verify center of gravity.

7. Place a spirit level on top of Mechanical Core frame. Check level along and across frame.
8. Adjust leveling legs individually as necessary by tightening or untightening adjusting nut. Lock wheels.



REF.: #920-004-489

**Figure 3-25. Drying System**



>> **Crate D** Drying package, and/or side panels (option), and/or ramp (option).

>> **Drying System Assembly** **Figure 3-25**

**IMPORTANT:** Two people or more are required for this task.



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD** - Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales or service representative regarding service options.

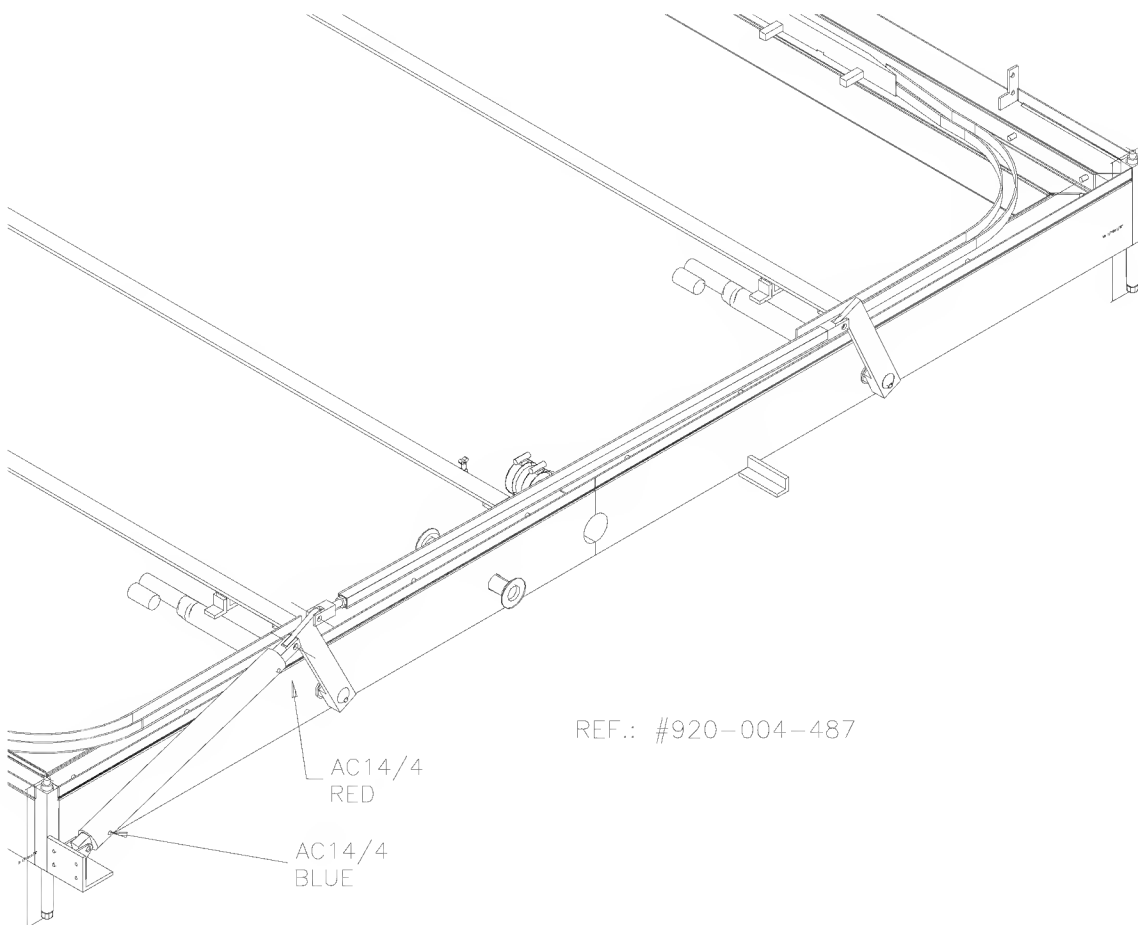


**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD** - Do not assemble Drying System components (frame, fan and heat exchanger) prior to installation on the mechanical core. Lifting assembled Drying System may result in back injury or equipment damage.



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD** - When installation of Mechanical Core is completed, lock wheels into position.

1. Install vertical drying system frame support (68) using 5/16-18 x 2-1/2" bolts, 5/16-18 flat washers, lock washers and nuts.
2. Install horizontal drying system frame support (69) using 5/16-18 x 1" bolts, 5/16" flat washers, 5/16" lock washers and nuts for top frame.
3. Lift heat exchanger (70) over drying system frame. Secure two vertical posts with two 5/16-18 x 2-1/2" bolts, 5/16 flat washers, 5/16" lock washers and 5/16-18 nuts.
4. Spread a 3/8" (2 mm) bead of silicone on silicone gasket (72) to fix gasket to drying fan. Lift drying fan (71) and position next to heat exchanger.
5. Secure fan to heat exchanger with 5/16-18 x 1-1/4" bolts, 5/16" washers, 5/16" lockwashers, and 5/16-18 nuts.
6. Secure fan base to frame using two 3/8-16 x 1" bolts, two 3/8-16 x 2-1/2" bolts, 3/8" washers, 3/8" lock washers and 3/8-16 nuts.
7. Link heat exchanger to Main Drying Manifold with 6" (150 mm) flexible conduit (73) (about 24" long [610 mm]), using two collars already installed on hose.
8. Connect drain hoses (64) to heat exchanger box (70) and drying fan (71) using collars already installed on hose.
9. Connect drain hose (64) to exhaust fan (71) (option). If there is no exhaust fan, connect drain hose on Customer ventilation duct (see Equipment Drawings 122998-076 for 130 and 920-003-480 for 130L).
10. Connect steam inlet union piping (74) to heat exchanger box (remove tape on union).
11. Connect steam return piping (75) to heat exchanger box.



**Figure 3-26. Floor Tilt Pneumatic Connections**

## >> Pneumatic Connections

*NOTE: Pressurized air line supply bundle is sheathed in black flexible conduit.*

Connect air line supply as follows, matching numbers as described below:

### Connections at Bottom of Washer (Figure 3-26).

- For Automatic Floor Tilt:

1. Make **AC14/4 RED** connection for **automatic floor tilt pilot valve**, at bottom of unit.
2. Make **AC14/4 BLUE** connection for **automatic floor tilt pilot valve**, at bottom of unit.

### Connections on Top of Washer (Figure 3-27).

#### TRAVELERS

1. Make **AC2/2 BLUE** connection for **right traveler cylinder pilot valve**, on top of unit.
2. Make **AC3/2 RED** connection for **left traveler cylinder pilot valve**, on top of unit.

#### DAMPERS

3. Make **AC13/4 RED** connection for **damper pilot valve**, on top of unit.
4. Make **AC13/4 BLUE** connection for **damper pilot valve**, on top of unit.
5. Make **AC 13/4 RED** connection for **drying damper**, on top of unit.
6. Make **AC 13/4 BLUE** connection for **drying**, on top of unit.

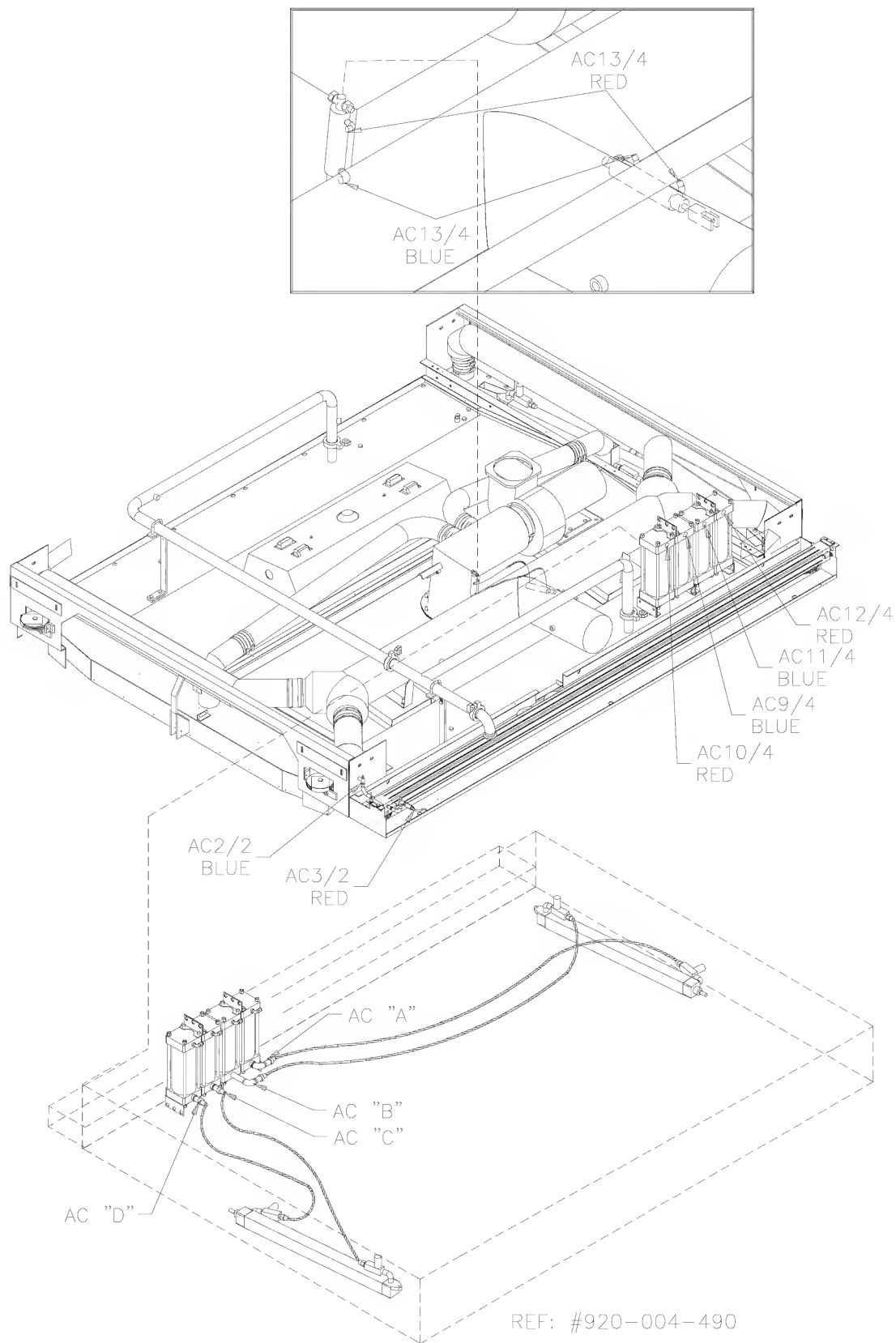
#### AIR/OIL TANKS

*NOTE: there are two Air/Oil Tanks on a single door unit, and four on a double door unit (one for each door section).*

7. Make **AC 12/4 RED** connection on **right door close oil tank**, on top of unit (if applicable).
8. Make **AC 11/4 BLUE** connection on **right door open oil tank**, on top of unit (if applicable).
9. Make **AC 10/4 RED** connection on **left door close oil tank**, on top of unit (if applicable).
10. Make **AC 9/4 BLUE** connection on **left door open oil tank**, on top of unit (if applicable).
11. Remove plugs from pneumatic tubing (AC "A", AC "B", AC "C" and AC "D").
12. Make **AC "A"** connection on **left door open cylinder**, on top of unit (if applicable).
13. Make **AC "B"** connection on **left door open cylinder**, on top of unit (if applicable).



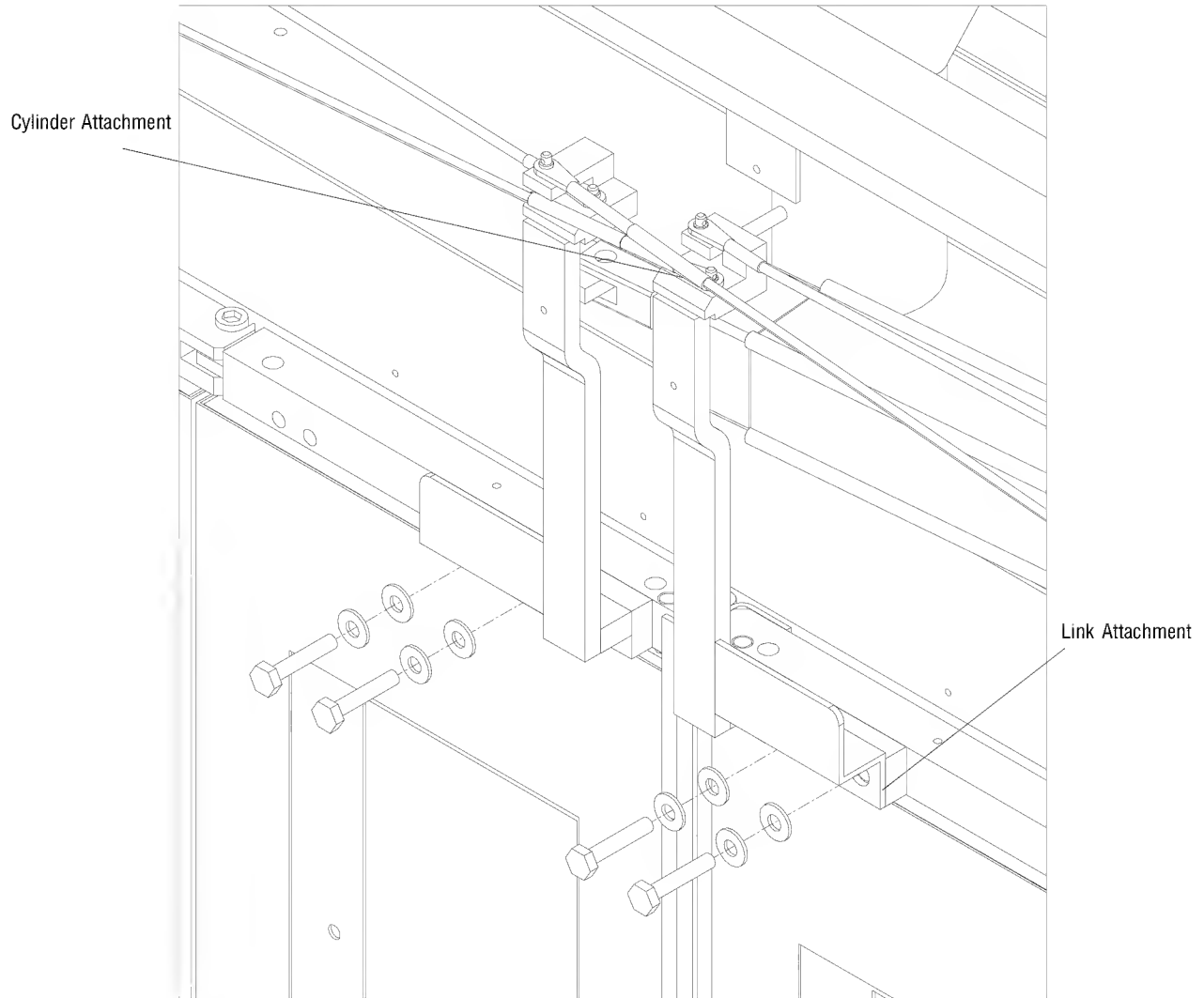
**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD** - Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales or service representative regarding service options.



**Figure 3-27. Top of Washer, Pneumatic Connections**

14. Make **AC "C"** connection on **right door open cylinder**, on top of unit.
15. Make **AC "D"** connection on **right door close cylinder**, on top of unit (if applicable).
16. Completely insert tubing into compression fitting, press as necessary and tighten nut firmly.
17. Open pneumatic valves.

*NOTE: To adjust oil level in Air/Oil Tanks, refer to section 5.*



REF.: #920-004-646

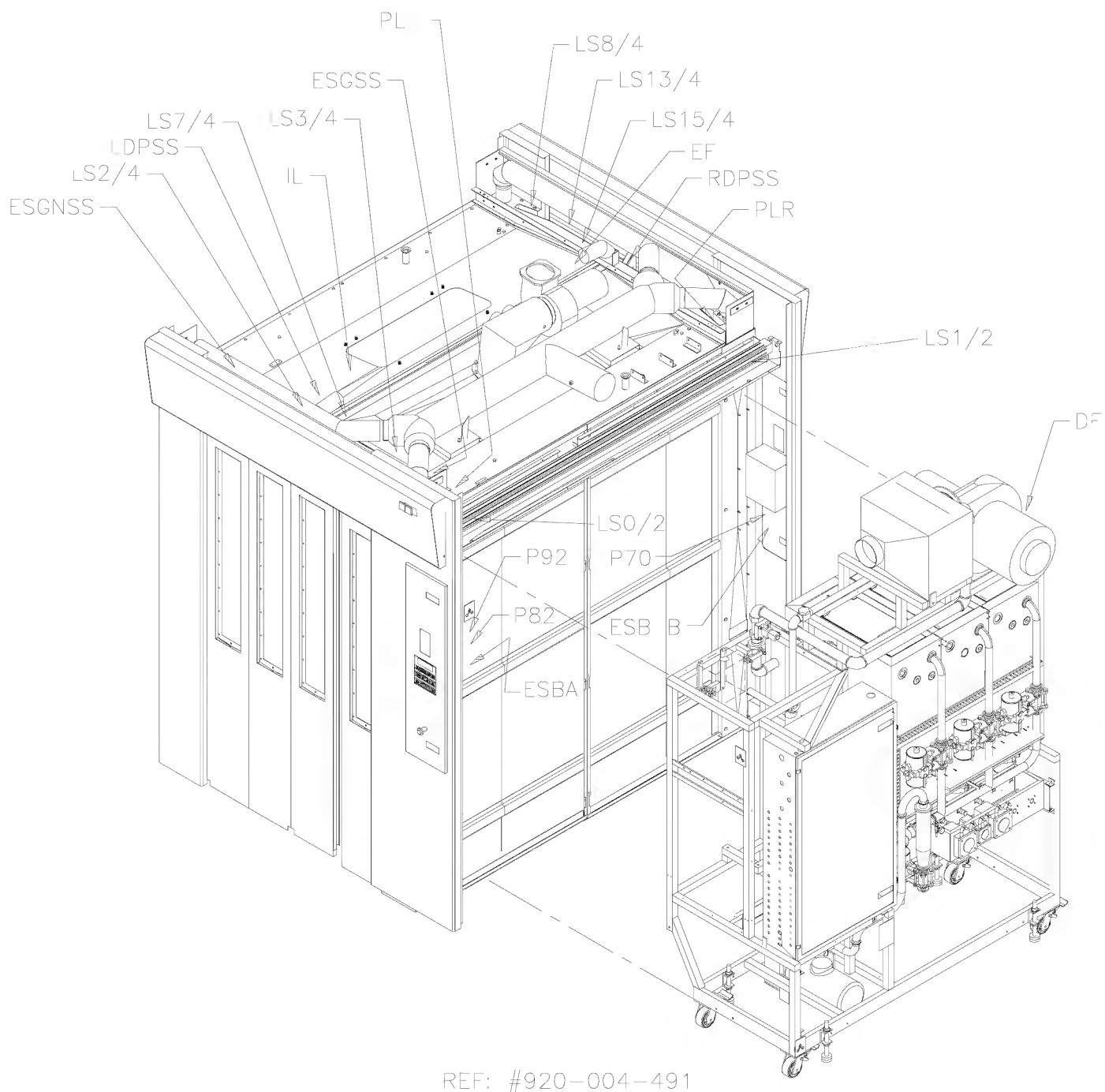
**Figure 3-28. Door Links**

## >> Door Links **Figure 3-28**



**WARNING - PERSONAL INJURY  
HAZARD - Keep hands/fingers  
away from closing doors in order  
to prevent crushing between the  
two doors.**

1. Remove ties from door links.
2. Slide doors into closed position.
3. Secure door links to door frames, using blue Loctite on 3/8-16 x 1-1/2" bolts, 3/8" washers and 3/8" lockwashers.
4. Tighten bolts.
5. Slide doors into open position and verify that door links and pulleys slide freely.



**Figure 3-29. Electrical Connections**



## >> Electrical Connections For all electrical connections see Figure 3-29.

*NOTE: Wire bundle is sheathed in flexible black conduit.*

*NOTE: Left and right refer to the position when facing service side.*

Make electrical wiring connections as follows, matching numbers as described below:



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD** - Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales or service representative regarding service options.

### Connections on Service Side of Washer

*NOTE: Main operator terminal can be located on either left or right side.*

1. Make **P92** connection for **main operator terminal supply**, behind main controls (printer side).
2. Make **P82** connection for **main operator terminal communication**, behind main controls (printer side).
3. Make **ESB A** connection for **emergency stop button**, behind main controls (printer side).
4. Make **P70** connection for **secondary operator terminal communication**, behind secondary controls (non-operating end terminal).
5. Make **ESB B** connection for **emergency stop button**, behind secondary controls (non-printer side).

### Connection on Top of Washer, for Left Side

6. Make **LS2/4** connection for **left door safety load sensor**, on top of unit.
7. Make **LDPSS** connection for **left door pump safety switch**, on top of unit.
8. **LS7/4** remains unconnected (not shown).
9. Make **LS3/4** connection for **left door close sensor**, on top of unit.
10. Make **PLL** connection for **left indicator light**, on top of control panel.
11. Make **LS0/2** connection for **traveler cylinder left position sensor**, on top of unit.
12. Make **ESGNSS** connection for **emergency stop guard rail**, non-service side, on top of unit.
13. Make **ESGSS** connection for **emergency stop guard rail**, service side, on top of unit.

### Connections on Top of Unit, for Right Side

14. Make **LS8/4** connection for **right door close sensor**, on top of unit.

This page intentionally left blank.

15. **LS13/4** remains unconnected (not shown).
16. Make **LS15/4** connection for **right door safety load sensor**, on top of unit.
17. Make **RDPSS** connection for **right door pump safety switch**, on top of unit.
18. Make **PLR** connection for **right indicator light**, on top of control panel.
19. Make **LS1/2** connection for **traveler cylinder right position sensor**, on top of unit.



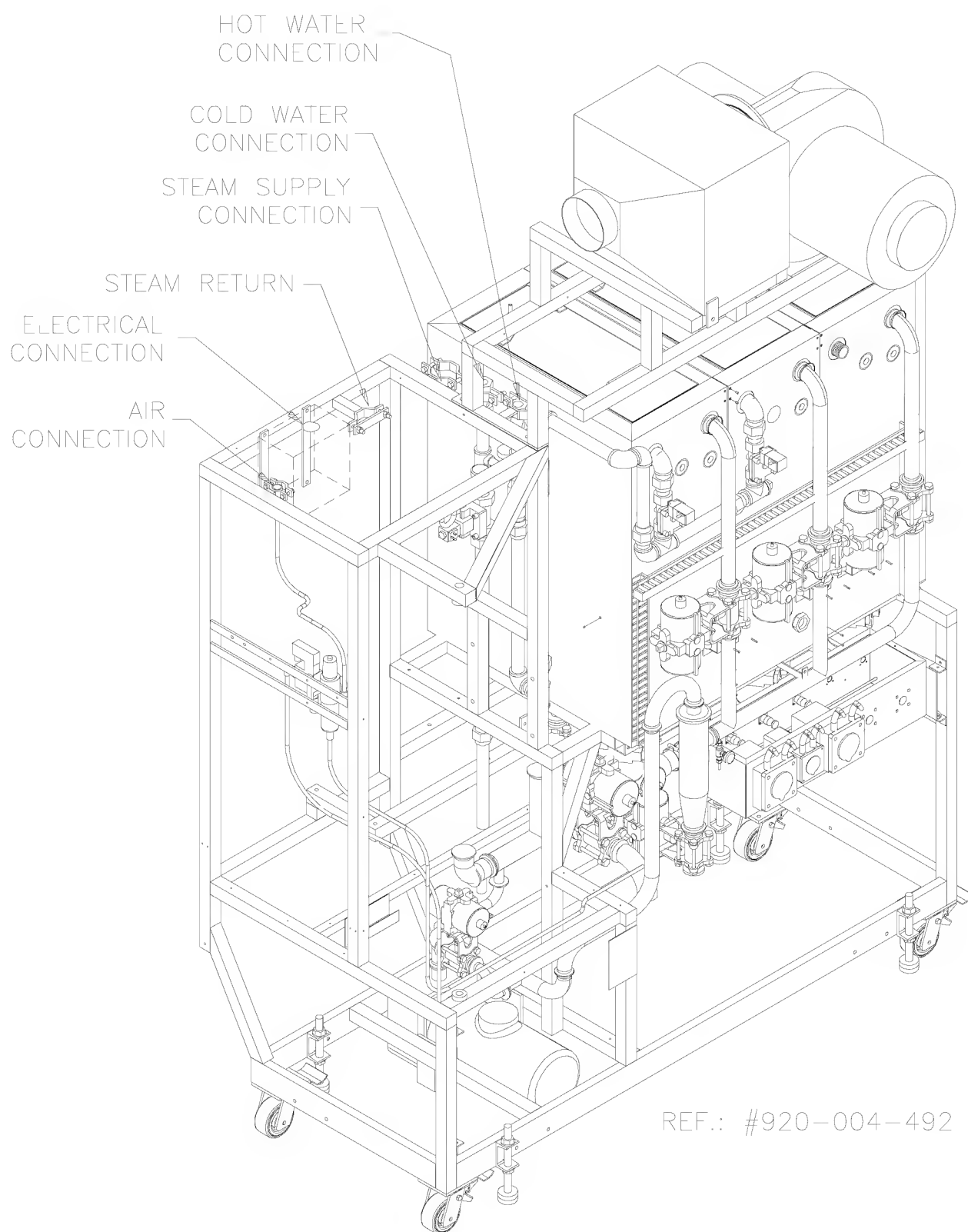
**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD** - Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales or service representative regarding service options.

#### **Connections in middle top of unit**

20. Make **IL** connection for **interior light**, on top of unit.
21. If exhaust fan option is present, make **EF** connection, for **exhaust fan** system on top of unit. (Match wire numbers inside motor electrical box.)

#### **Connections on top of mobile mechanical core.**

22. Make **DF** connection, for **drying system** on top of mobile mechanical core. (Match wire numbers inside motor electrical box.)



**Figure 3-30. Supplies Connections**

## Connect Utilities



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD** - Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales representative regarding service options.



**WARNING - ELECTRIC SHOCK AND/OR BURN HAZARD**: Disconnect all utilities before servicing. Do not service washer unless all utilities have been properly locked out. Always follow local Lockout-Tagout and electrical safety-related work practice standards.



**WARNING - FALL HAZARD**: To prevent falls, keep floors dry. Promptly clean up any spills or drippage.

**Figure 3-30**

Connect the following supply lines to the unit:

- **HOT WATER** - Blow out hot water supply line to remove chips, scale, etc. Connect line to unit connection, accessible from top of mobile mechanical core.

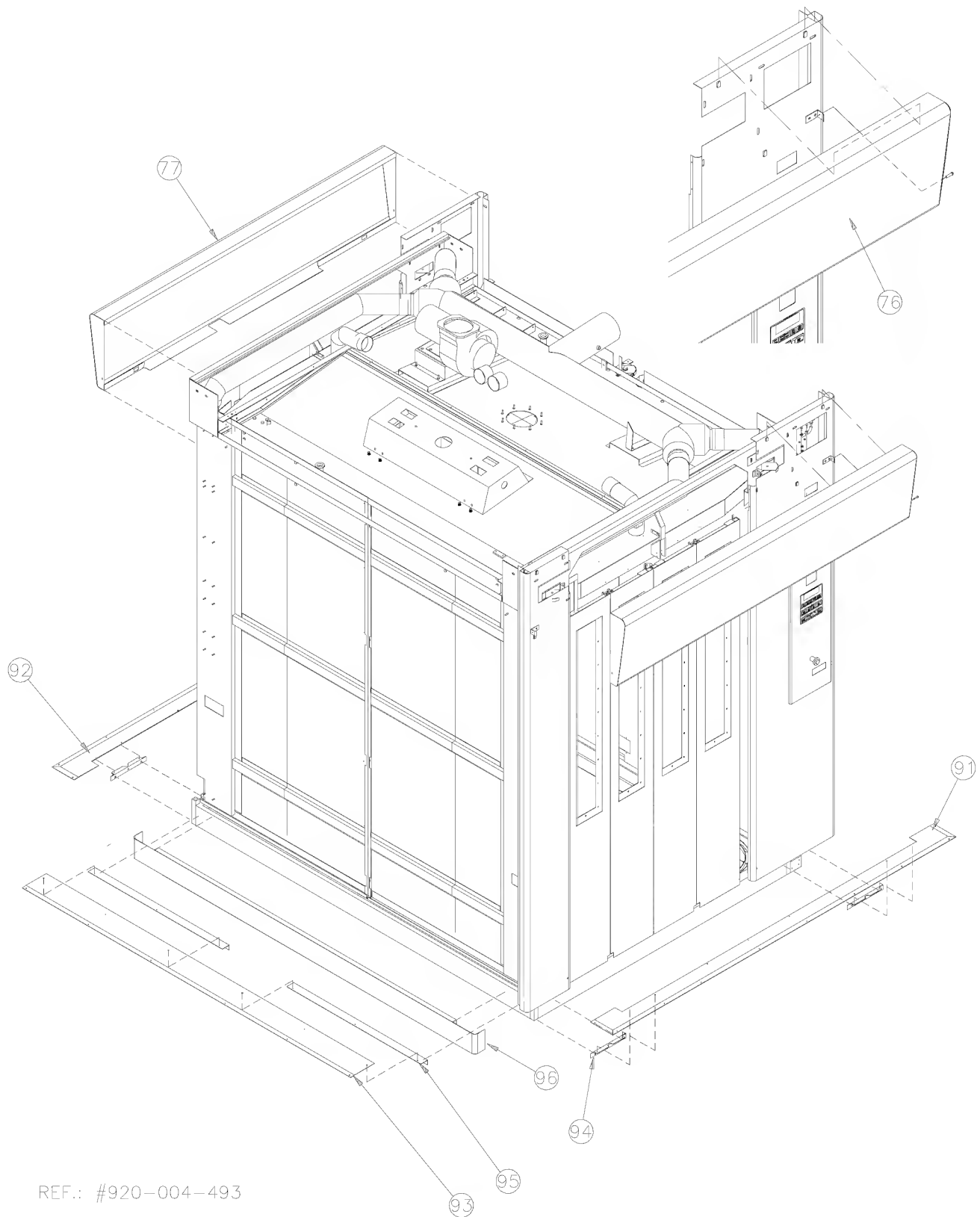
*NOTE: Water is hot; run water line to a safe sink or drain.*

- **COLD WATER** (required on models equipped with a Drain Discharge Cooldown System) - Blow out the building cold water supply line to remove chips, scale, etc. Connect line to unit connection, accessible from top of mobile mechanical core.
- **STEAM** - Blow out building steam supply line to remove chips, scale, etc. Connect line to unit connection, accessible from top of mobile mechanical core.

*NOTE: Live steam; run steam line to a safe drain.*

- **CONDENSATE RETURN** - Connect building condensate return line to unit, accessible from top of mobile mechanical core. Condensate return must be vented and non-pressurized.
- **DRAIN** - Connect building waste line to unit drain line, accessible from bottom of mobile mechanical core (not shown). Direct connection is not acceptable; air gap is required.
- **VENT** - Connect building ventilation system to unit vent connection or to Exhaust Fan (if option is present), accessible from top of unit.
- **COMPRESSED AIR** - Connect building supply line to unit, accessible from top of mobile mechanical core.
- **ELECTRIC** - Connect building electrical supply to unit electrical supply box, accessible from top of mobile mechanical core. Tighten electrical connections.

2. Open building supply valves and check for leaks. Correct if necessary.
3. Install seismic anchorage if option applies (see seismic report 920-004-485 for 130 and 920-004-484 for 130L).



**Figure 3-31. Service Panels and Transition Plates**

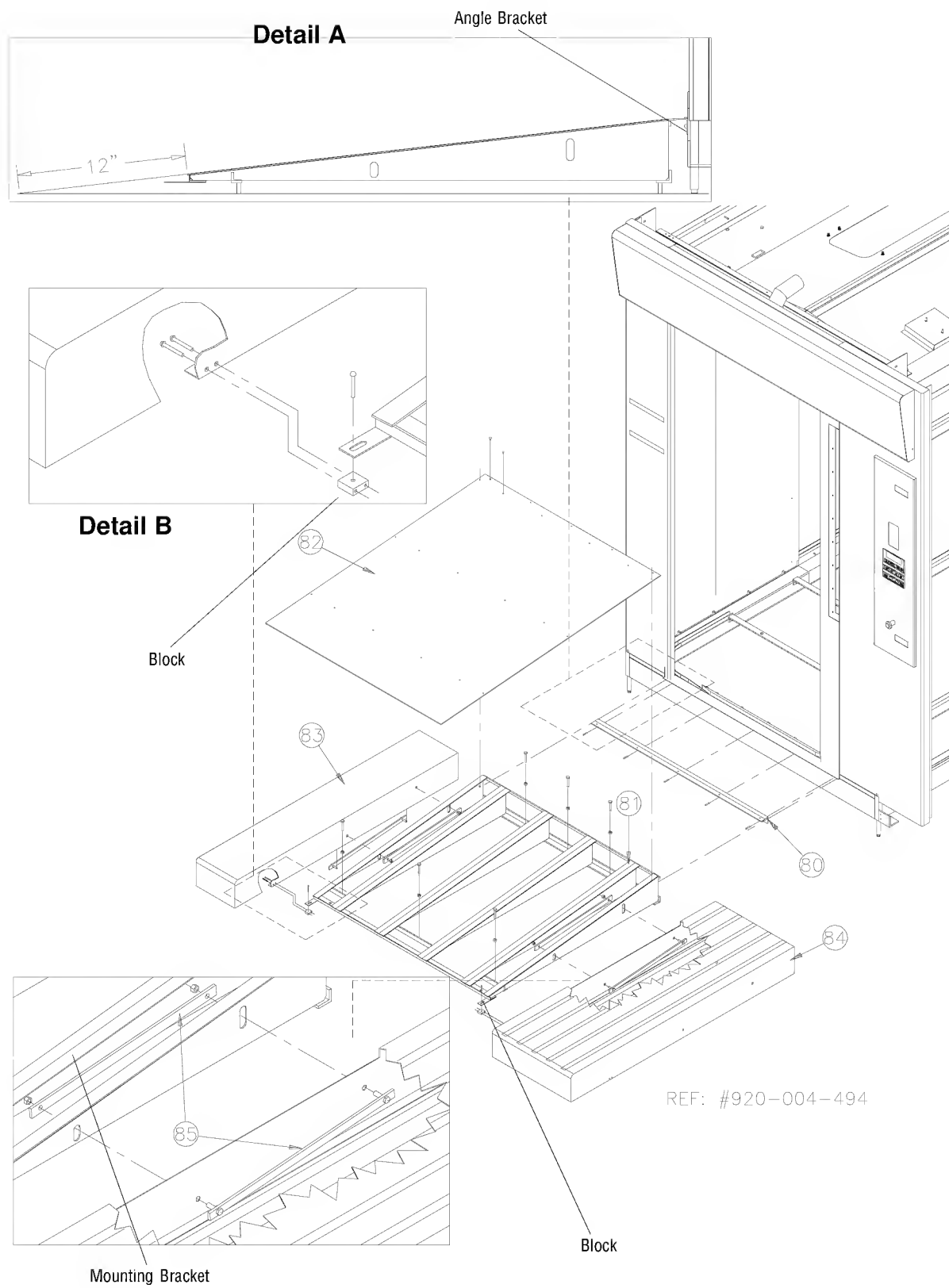
## Service Panels and Transition Plates

**Figure 3-31**

*NOTE: Do not remove white protective adhesive paper from service and door panels until installation is completed.*

1. Install Front Service panels (76, 77) as shown on Figure 3-29.
2. Secure into position using 10-32 x 1/4" screws.
3. Install transition support (95) level with floor using 10-32 x 3/8" screws if unit is pit mounted.
4. Install transition plate (93) using 10-32x3/8 screws if unit is pit mounted.
5. Install sump protection panel (96) using 10-32x3/8 screws if unit is floor mounted.
6. **If unit is not equipped with 130 Load/Unload Modules:** Install remaining transition plates and supports (91, 92, 94).

**If 130L is equipped with 130 Load/Unload Modules:** To continue installation procedure, refer to Uncrating/Installation Instructions (P-920010-101) included in Crate #1 of the 130 Automated Transport System. Remaining transition plates and supports (91, 92, 94) will be installed later in the procedure.



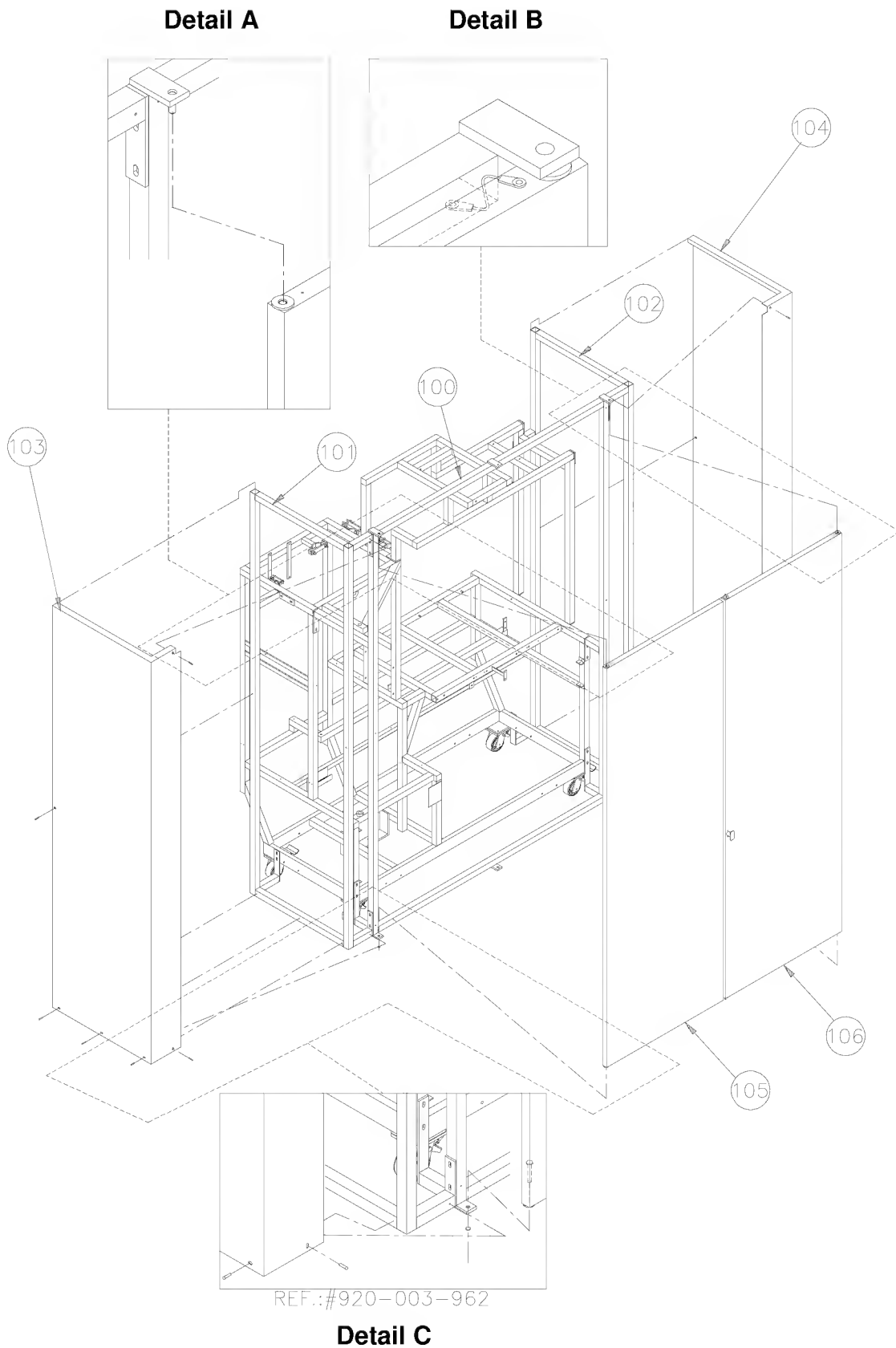
**Figure 3-32. Ramp Option**



## **Ramp Option**

**Figure 3-32**

1. Bolt angle bracket (80) to sump, below door sill. Use five truss head screws 10-32 x 1/2".
2. Place ramp base under angle bracket (see Detail A).
3. Install ramp base (81). Level ramp base to angle bracket and floor (see detail A). Use six 3/8-16 x 2" bolts and six 3/8-16 nuts provided on both ends to adjust ramp base height.
4. Bolt blocks on ramp sides (83, 84). One on each side of Ramp. Use four 10-32 x 1/2" truss head screws and two 1/4-20 x 1/2" bolts (see Detail B).
5. Temporarily tape side mounting bracket (85) on each side guard (83 and 84) to hold in place.
6. Secure side mounting brackets (85) from side guards to ramp. Use four 3/8-16 nuts.
7. Place aluminum plate (82) on ramp base. Bolt aluminum plate to mounting bracket and to ramp base using twenty-three 10-32 x 1/2" truss head screws provided.
8. Repeat steps 1 through 7 to install second ramp.



**Figure 3-33. Service Access Panels (1 of 2)**

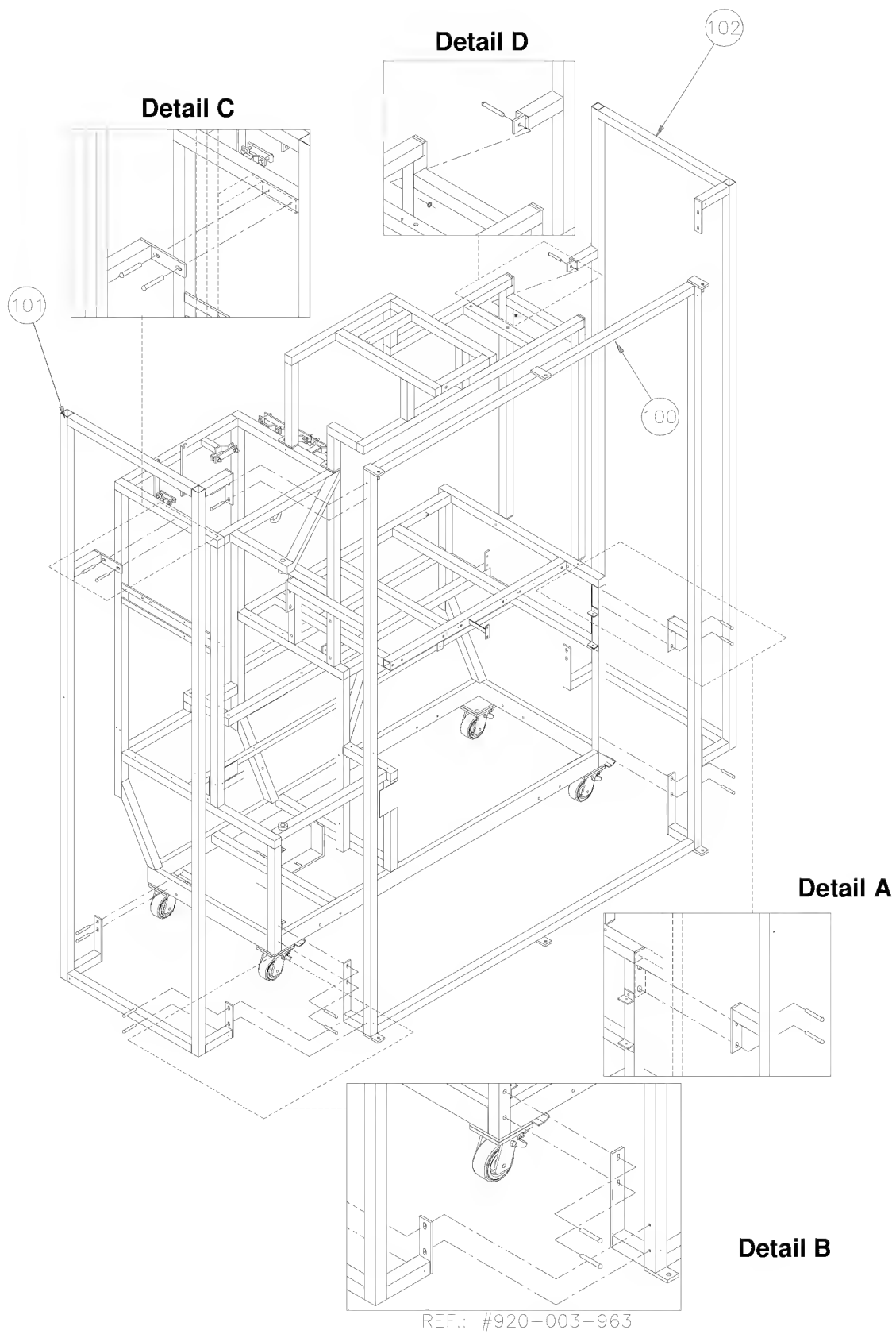
## Service Access Panels

### Figures 3-33 and 3-34

*NOTE: Do not remove white protective adhesive paper from service and door panels until installation is completed.*

**IMPORTANT:** Two people are required to assemble the Service Access Panels.

1. To install door frame (100), align middle door frame bracket flush with Mechanical Core frame (see Figure 3-34, Detail A). Lower door frame brackets. Mark holes on Mechanical Core frame.
2. Remove door frame. Drill 1/4"Ø and tap 5/16-18 into Mechanical Core frame. Re-install and fix door frame on Mechanical Core using 5/16-18 x 3/4" bolts.
3. Fix bottom of side frame (101) to bottom and top of door frame (100) (see Figure 3-34, Details B and C). Mark holes on Mechanical Core frame and on door frame.
4. Remove side frame. Drill 1/4"Ø and tap 5/16-18 into Mechanical Core frame. Re-install side frame on Mechanical Core using 5/16-18 x 3/4" bolts.
5. Repeat steps 5 and 6 to install side frame (102). Re-install side frame on Mechanical Core using 5/16-18 x 3/4" bolts and one 5/16-18 x 2-1/2" and 5/16-18 nut (see Detail D).
6. Install side service access panels (103 and 104) on frames (101 and 102) using 10-32 x 3/4" screws (see Figure 3-33).
7. Install service door panels (105 and 106) on frame (100). Insert doors into top rods (see Figure 3-33, detail A and B). Use bolts 3/8-16 x 1-1/2" and lock nuts 3/8-16 on door bottom.
8. Install ground cables inside side top door holes using 8-32 x 3/8" screws (see Detail B) (Figure 3-33).



**Figure 3-34. Service Access Panels (2 of 2)**

## Cleanup



**CAUTION:** After utilities are connected to washer, slowly remove the protective adhesive paper from the exterior cabinet panels to reduce the risk of static discharge.



**CAUTION:** When removing adhesives from stainless steel, use a small amount of cleaning solvent. Rub in a back and forth motion (in same direction as surface grain). Solvent rubbed in a circular motion or applied with a wire brush or steel wool on door and chamber assemblies can be harmful to stainless steel. Do not use solvents on painted surfaces.

1. Remove all white protective adhesive paper from unit cabinet panels, ramp (if option applies), 130L Load/Unload Modules (if option applies) and inside of wash chamber. Slowly peel paper away from stainless steel to reduce level of static discharge.
2. Remove all white adhesive found on panels, door(s), 130L Load/Unload Modules (if option applies) and inside chamber with a small amount of non-flammable cleaning product. Keep solvent away from all painted surfaces or damage may result.

*NOTE: After removing protective paper from doors, make sure that outside glass fixture is firmly clipped over glass.*

3. Remove all white assembling stickers from unit with a small amount of non-flammable cleaning product. Keep solvent away from all painted surfaces or damage may result.
4. Inspect unit and work area to be sure all material used during installation has been removed.
5. Remove all floor grids and clean sump thoroughly. Remove tie wraps, screws, or other items that could enter and damage or jam suction pump.

**THIS COMPLETES THE INSTALLATION.** Before operating equipment, Installation Checklist (Section 4) and Start-up Test (Section 5) should be conducted by a qualified service technician. Contact your STERIS representative for details on scheduling a Preventive Maintenance Checklist Inspection and a Start-up Test by a qualified STERIS service technician.

This page intentionally left blank.

Installation checklist must be completed after the washer is installed and prior to performing the operational test to assure complete and correct installation.

**NOTE:** *Contact your STERIS representative to schedule a technician to test your installation and demonstrate proper equipment operation.*

- ☐ Shutoff valves (not by STERIS), for maintenance purposes and capable of being locked in OFF position only, installed on steam, air and water lines and in compliance with local occupational health and safety regulations, as well as electric and plumbing codes.
- ☐ Disconnect switches (not by STERIS), for maintenance purposes and capable of being locked in OFF position only, installed in electrical supply lines near the unit and in compliance with local occupational health and safety regulations, as well as electric and plumbing codes. Disconnect switches must bear the identification of the equipment to which they are connected.

**NOTE:** *If unit is installed next to other equipment, shutoff valves and disconnect switches should be located so that service can be shut off to one piece of equipment at a time.*

- ☐ Washer positioned, as shown on Equipment Drawing, with required clearance space and in relation to building supply lines.
- ☐ Washer is level. Remove cabinet and use leveling legs if necessary.
- ☐ Building cold water line supplies water to unit as specified on Equipment Drawing (required only if Drain Discharge Cooldown System, is present).
- ☐ Building hot water line supplies water to unit as specified on Equipment Drawing.
- ☐ Building steam line provides steam to unit as specified on Equipment Drawing.
- ☐ Building condensate return line is connected to washer as specified on Equipment Drawing.
- ☐ Building air line supplies air to unit as specified on Equipment Drawing.
- ☐ Building waste line is provided to washer as specified on Equipment Drawing.
- ☐ Building ventilation system is connected to washer as specified on Equipment Drawing.
- ☐ Electrical supply for unit is as specified on Equipment Drawing.
- ☐ Floor surrounding unit has nonslip surface.
- ☐ Piping connections between washer and mobile mechanical core are as specified in Section 3.

- ☐ Verify all quick disconnect clamps (in Washer and in Mechanical Core) are tightened. Tighten if necessary.
- ☐ Electrical connections between washer and mobile mechanical core are as specified in Section 3.
- ☐ Air line connections between washer and mobile mechanical core are as specified in Section 3.
- ☐ Drying option connections between washer and mobile mechanical core are as specified in Section 3.
- ☐ If present, ramps are correctly attached to washer as specified in Section 3.
- ☐ Make sure all pneumatic connections and switches are properly installed, adjusted and connected:
- ☐ Switches for Guard Rails, located on top of rods (left side on top of washer, facing Service Side).
- ☐ Switches for EMERGENCY STOP Pushbutton located on control panel access doors behind console door on soiled and clean side.
- ☐ **If 130L washer equipped with 130L Load/Unload Modules:** check that all 130L Load/Unload Modules floor flanges and compartment panels are in position and that all screws are in place and tightened.

**IMPORTANT:** After a few weeks of operation, inspect unit for leaks. Re-tighten all clamps and connections.





**WARNING - PERSONAL INJURY HAZARD:** To open doors from inside wash chamber, press Emergency Stop Guard Rails. Washer operation will automatically stop. Then, push firmly between door panels using shoulder and upper arm, applying upper body force. Do not push between the doors, but between door panels.



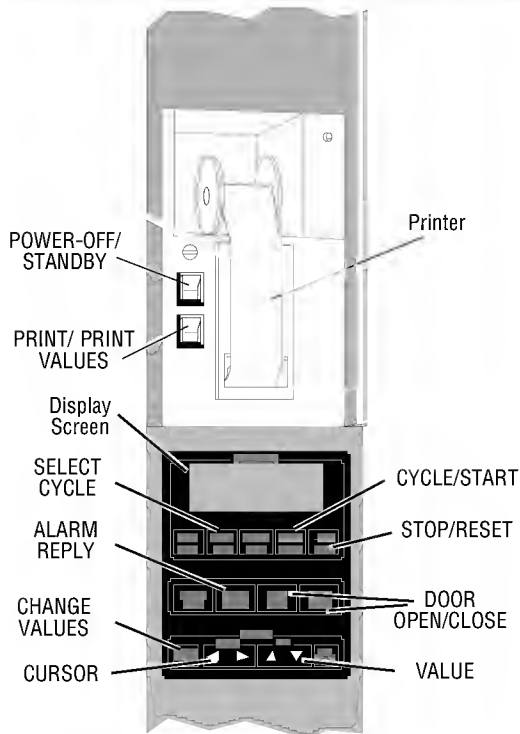
**WARNING - PERSONAL INJURY AND EQUIPMENT DAMAGE HAZARD:** To test or demonstrate Emergency Exit Safety Doors, first press EMERGENCY STOP Pushbutton (located under control) or Emergency Stop Guard Rails (inside wash chamber) to turn power OFF. If power is still on while adjusting or servicing doors, the Photoelectric Sensor will detect the movement of the door panels and doors will open automatically.

Test procedures included in this section should be performed by a STERIS trained service technician prior to normal operation of the washer. Contact your STERIS representative for details on scheduling a Start-up Test by a qualified STERIS service technician.

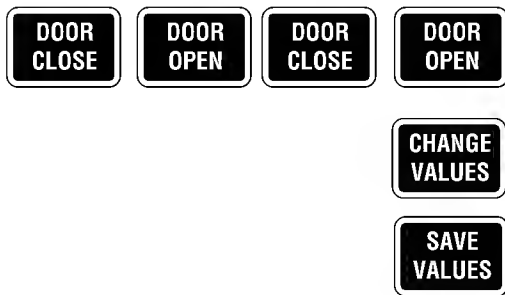
*NOTE: Chamber doors should still be open; if not, manually open doors.*

1. Verify that wash chamber is empty and all packing material has been removed.
2. Verify that debris screen is correctly positioned in wash chamber sump.
3. Make sure that both clamps are properly secured over suction plate hose.
4. Make sure that vacuum piping and hose clamps are properly secured.
5. Make sure that vacuum piping grommet is pushed onto suction plate.
6. Make sure Emergency Stop Guard Rails, inside wash chamber, are pulled up.
7. Make sure EMERGENCY STOP pushbutton(s) are pulled out.
8. **If 130L equipped with 130L Load/Unload Modules:** Make sure MAN/AUTO/INIT selector switch is in MAN position.

## How to Enter Factory Set-Up Mode



**Figure 5-2. Control Panel and Printer**

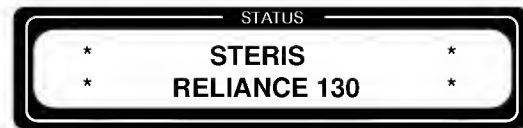


If main control and remote control panels have been interchanged from factory location, enter Factory Set-Up Mode to configure control.

1. Position electrical disconnect switch to **ON**.
2. Set **POWER-OFF/STANDBY** switch, located behind printer door, to **POWER** (see Figure 5-2) and immediately press and hold **PRINT** on **PRINT/PRINT VALUES** Printer Function Switch.

**NOTE:** Top portion of **PRINT/PRINT VALUES** switch must be pressed immediately after **POWER** has been pressed, otherwise washer will automatically enter Automatic Mode.

3. Display shows:



Then:



4. Enter Factory Set-Up Access code:
  - a) Press **DOOR CLOSE** touch pad.
  - b) Press **DOOR OPEN** touch pad.
  - c) Press **DOOR CLOSE** touch pad.
  - d) Press **DOOR OPEN** touch pad.
5. Press **CHANGE VALUES** touch pad (CVTP).
6. Answer **NO** to Delete Configuration question.
7. Press **SAVE VALUES** touch pad (SVTP) to review existing configuration.
8. Answer **YES** to all questions that will appear on display (check unit options), until you arrive to:



9. Press **VALUE** (up or down) touchpad to move to **RIGHT**.

**NOTE:** You should stand facing Mechanical Core Service Side to determine left and right side.



10. Press **CHANGE VALUES** touch pad to confirm.

11. Display shows:



12. Press **VALUE** touchpad to move to UNLOAD.

*NOTE: You should stand facing Mechanical Core Service Side to determine left and right side. Check Equipment Drawing to determine workflow operation.*



13. Press **CHANGE VALUES** (CVTP) until the end of menu.



14. Press **SAVE VALUES** to answer NO to Review Configuration.



15. Press **CHANGE VALUES** to print new configuration. Printer prints:



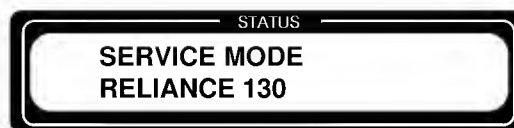
**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:** Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage. Contact your STERIS sales representative regarding service options.

Values to configure when exchanging control panels

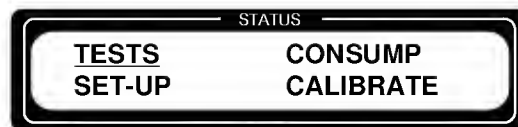
```
*****
FACTORY SETUP
*****
7:48:27A      1/01/26
UNIT HAS BEEN
RECONFIGURED
7:48:27A      1/01/26
=====
UNIT CONFIGURATION
7:48:27A      1/01/26
=====

DRAIN COOLDOWN
YES
LOAD DOOR SIDE
RIGHT
PRINTER CONTROL SIDE
UNLOAD
ADDITIONAL WASH TANK
YES
AUTOMATIC DESCALER
NO
CYCLE CNT      = 00000000
S/N 3601001002
=====
```

16. Display returns to:



then:



\_\_ indicates flashing position.

## >> How to Verify Indicator Lights



17. Press **CYCLE START** to initiate verification. Display shows:



\_\_ indicates flashing position.



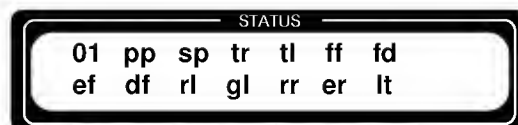
18. Press **CYCLE START** to display digital Outputs menu:



\_\_ indicates flashing position.



19. Press **CYCLE START** again to go to first I/O menu:



20. Use **CURSOR** arrows (right or left) to select **rl** output, press **VALUE** (up) to activate output (RL). Verify that right red light is on. Press **VALUES** again to deactivate output.

*NOTE: When output is selected, letters will change from lower case to capital letters. When deactivated, letters will change from capitals to lower case.*

*NOTE: Missing options are represented by two dashes: - -.*



21. Use **CURSOR** arrows to select **gl** output, press **VALUE** (up) to activate output (GL). Verify that left green light is on. Press **VALUE** again to deactivate output.



22. Use **CURSOR** arrows to select **rr** output, press **VALUE** (up) to activate output (RR). Verify that right red light is on. Press **VALUES** again to deactivate output.



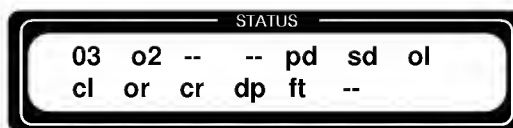
23. Use **CURSOR** arrows to select **gr** output, press **VALUE** (up) to activate output (RR). Verify that right green light is on. Press **VALUE** again to deactivate output.

**IMPORTANT:** In case indicator lights do not correspond to correct side configuration, verify that PLL cable is on the right side and that PLR cable is on left side.

## >> How to Verify Door Configuration



24. Press **SELECT CYCLE** twice to go to third outputs menu:



24. Use **CURSOR** arrows to select **ol** output, press **VALUE** (up) to activate output (OL). Verify that doors on left side open. Press **VALUES** again to deactivate output.



25. Use **CURSOR** arrows to select **cl** output, press **VALUE** (up) to activate output (CL). Verify that doors on left side close.



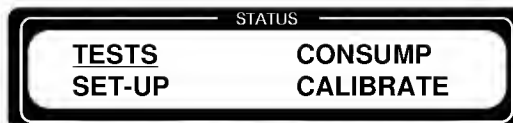
26. Use **CURSOR** arrows to select **or** output, press **VALUE** (up) to activate output (RR). Verify that doors on right side open. Press **VALUES** again to deactivate output.



27. Use **CURSOR** arrows to select **cr** output, press **VALUE** (up) to activate output (CR). Verify that doors on right side close.



28. Press **STOP** three times to return to Tests menu:



\_\_\_ indicates flashing position.



29. Press **EXTENDED CYCLE** to return to Automatic Mode.

## How to Enter Service Mode



**WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:** Only fully qualified service personnel should make repairs and adjustments to this equipment. Maintenance done by inexperienced, unqualified personnel or installation of unauthorized parts could cause personal injury, invalidate the warranty or result in costly damage. Contact your STERIS sales or service representative regarding service options.

**IMPORTANT:** Service Mode allows service personnel to set general operating parameters, operate solenoid valves for test purposes, verify inputs to the control for proper operation, perform calibration, set alarm time, etc. Before performing any modifications in Service Mode, always obtain a printout of current cycle parameters, service mode and factory setup values, so that current values can be easily reentered.

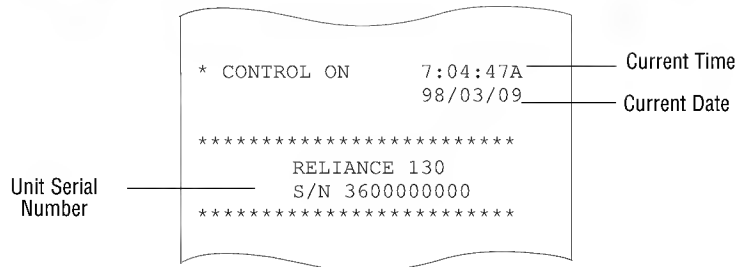
1. Position building electrical disconnect switch to **ON**.
2. To enter Service Mode, set **POWER-OFF/STANDBY** switch, located behind printer door, to **POWER** (see Figure 5-1) and immediately press and hold **PRINT** on **PRINT/PRINT VALUES** Printer Function switch.

*NOTE: To enter Service Mode, top portion of **PRINT/PRINT VALUES** switch must be pressed immediately after **POWER** has been pressed, otherwise washer will enter Automatic Mode.*

Display shows:



and printer records :

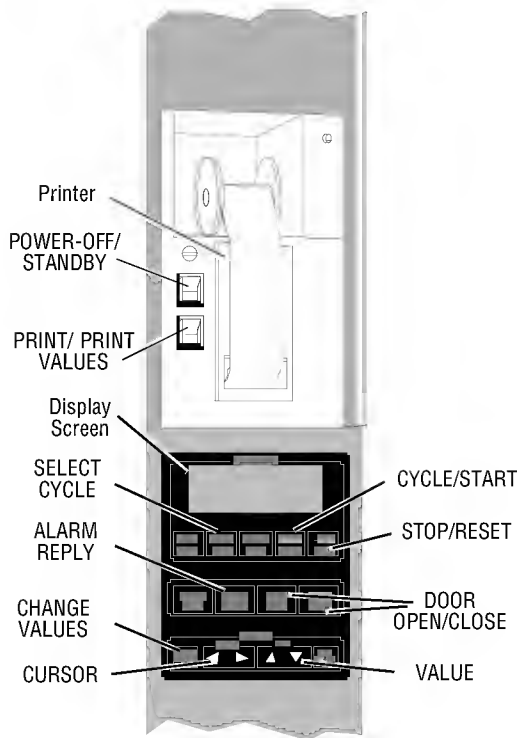


*NOTE: If incorrect time and date are printed, refer to Maintenance Manual - Section 4, for instructions on adjusting time and date.*

then display shows:



3. The access code is the four last digits of the serial number inverted by pairs. For example, if the serial number is 36xxxxx1234, the access code will be 3412.
4. Enter access code using **VALUE** (up or down) to scroll numbers and **CURSOR** (left or right) to move from one position to the next.

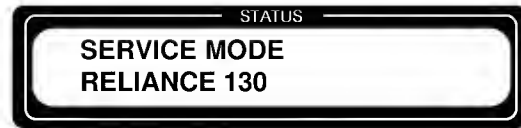


**Figure 5-1. Control Panel and Printer**

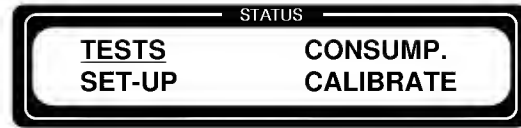




- Once proper access code is entered, press **CHANGE VALUES** to confirm entry. Display shows:



then...



\_\_ indicates flashing position.

## >> How to Activate Digital Outputs



- Press **CYCLE START** to initiate test. Display shows:



\_\_ indicates flashing position.



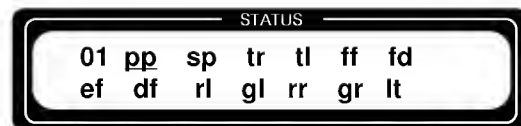
- Press **CYCLE/START** again to initiate I/O tests. Display shows:



\_\_ indicates flashing position.



- Press **CYCLE/START** once more to initiate Digital Outputs test (see Table 5-1). Display shows:



*NOTE: Missing options are represented by two dashes: - -.*

**TABLE 5-1. I/O BOARD OUTPUTS TESTS**

<b>O1</b>	<b>PP</b> PRESSURE PUMP  (AC0/2)	<b>SP</b> SUCTION PUMP  (AC1/2)	<b>TR</b> TRAVELER RIGHT VALVE  (AC2/2)	<b>TL</b> TRAVELER LEFT VALVE  (AC3/2)	<b>FF</b> SUCTION PUMP FILL VALVE  (AC4/2)	<b>FD</b> SUMP & SUCTION PUMP DRAIN VALVE  (AC5/2)
<b>EF</b> EXHAUST FAN  M3/OL3 (AC6/2)	<b>DF</b> DRYING FAN  M4/OL4 (AC7/2)	<b>RL</b> RED LIGHT LEFT SIDE  (AC9/2)	<b>GL</b> GREEN LIGHT LEFT SIDE  (AC10/2)	<b>RR</b> RED LIGHT RIGHT SIDE  (AC11/2)	<b>GR</b> GREEN LIGHT RIGHT SIDE  AC12/2)	<b>LT</b> INTERIOR LIGHT  (AC0/3)

<b>O2</b>	<b>P1</b> CHEMICAL PUMP 1  (AC2/3)	<b>P2</b> CHEMICAL PUMP2  (AC3/3)	<b>P3</b> CHEMICAL PUMP3  (AC4/3)	<b>F1</b> TANK 1 FILL VALVE  (AC8/3)	<b>F2</b> TANK 2 FILL VALVE  (AC9/3)	<b>F3</b> TANK 3 FILL VALVE  (AC10/3)
<b>CW</b> COLD WATER VALVE  (AC11/3)	<b>WH</b> IN-LINE BOOSTER STEM VALVE  (AC12/3)	<b>DH</b> DRYING STEAM VALVE  (AC13/3)	<b>TH</b> TANK 2 STEAM VALVE  (AC14/3)	<b>I1</b> TANK 1 RECIRC. INLET VALVE  (AC0/4)	<b>O1</b> TANK 1 RECIRC. OUTLET VALVE  (AC1/4)	<b>I2</b> TANK 2 RECIRC. INLET VALVE  (AC2/4)

<b>O3</b>	<b>O2</b> TANK 2 RECIRC. OUTLET VALVE  (AC3/4)	<b>I3</b> TANK 3 RECIRC. INLET VALVE  (AC4/4)	<b>O3</b> TANK 3 RECIRC. OUTLET VALVE  (AC5/4)	<b>PD</b> PRESSURE PIPING DRAIN VALVE  (AC7/4)	<b>SD</b> SUCTION PIPING DRAIN VALVE  (AC8/4)	<b>OL</b> OPEN LEFT DOORS VALVE  (AC9/4)
<b>CL</b> CLOSE LEFT DOORS VALVE  (AC10/4)	<b>OR</b> OPEN RIGHT DOORS VALVE  (AC11/4)	<b>CR</b> CLOSE RIGHT DOORS VALVE  (AC12/4)	<b>DP</b> DAMPER  (AC13/4)	<b>FT</b> FLOOR TILT  (AC14/4)	<b>DE</b> CHEMICAL PUMP 4  (AC13/2)	- -



**TABLE 5-2. I/O BOARD INPUTS TESTS**

<b>I1</b>	<b>TL</b> TRAVELER LEFT SENSOR  (LS0/2)	<b>TR</b> TRAVELER RIGHT SENSOR  (LS1/2)	<b>WF</b> HOT WATER INLET FLOWMETER  (LS0/3)	<b>P1</b> PUMP 1 CHEMICAL FLOWMETER  (LS1/3)	<b>P2</b> PUMP 2 CHEMICAL FLOWMETER  (LS2/3)	<b>P3</b> PUMP 3 CHEMICAL FLOWMETER  (LS3/3)
<b>H1</b> TANK 1 HIGH LEVEL SWITCH  (LS4/3)	<b>H2</b> TANK 2 HIGH LEVEL SWITCH  (LS5/3)	<b>H3</b> TANK 3 HIGH LEVEL SWITCH  (LS6/3)	<b>PO</b> PRESSURE PUMP OVERLOAD RELAY  M1/OL1 (LS0/4)	<b>SO</b> SUCTION PUMP OVERLOAD RELAY  M2/OL2 (LS1/4)	<b>LS</b> LOAD SENSOR LEFT SIDE  (LS2/4)	<b>LC</b> LEFT DOORS CLOSED SENSOR  (LS3/4)

<b>I2</b>	<b>EO</b> EXHAUST FAN OVERLOAD RELAY  M3/OL3 (LS4/4)	<b>DO</b> DRYING FAN OVERLOAD RELAY  M4/OL4 (LS5/4)	<b>RC</b> RIGHT DOORS CLOSED SENSOR  (LS8/4)	<b>RS</b> LOAD SENSOR RIGHT SIDE  (LS15/4)	<b>PE</b> PUMP 4 CHEMICAL FLOWMETER  (LS10/2)
-----------	--	---	--	--	--

**TABLE 5-3. CONTROL BOARD ANALOG INPUTS TEST**

<b>BST=XXX.X</b>  IN-LINE BOOSTER RTD [°F or °C] (CHANNEL 0)	<b>PR =XXX.XX</b>  PRESSURE TRANSMITTER[PSIG OR BAR] (CHANNEL 3)
<b>TK2=XXX.X</b>  TANK 2 RTD [°F or °C] (CHANNEL 1)	<b>CD =XXX.X</b>  COLD WATER INJECTION RTD [°F or °C] (CHANNEL 2)

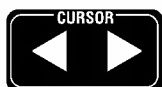
**TABLE 5-4. INTERLOCK FEATURES**

Note: Depending on options present on washer, some inputs or outputs may not be available on display (represented by «—»). Interlock does not apply when inputs or outputs are not present.

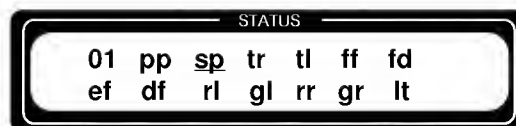
Output	Conditions	Verify
<b>PP</b>	*Doors must be closed Pressure Pump overload relay must not be tripped One Tank Outlet Valve must open	Input: <b>LC</b> and <b>RC</b> Input: <b>po</b> Output: <b>O1</b> or <b>O2</b> or <b>O3</b>
<b>SP</b>	Suction Pump overload relay must not be tripped	Input: <b>so</b>
<b>EF</b>	Exhaust fan overload relay must not be tripped	Input: <b>eo</b>
<b>DF</b>	Drying Fan overload relay must not be tripped	Input: <b>do</b>
<b>P1</b>	All other chemical pumps must not be activated	Output: <b>p2</b> and <b>p3</b>
<b>P2</b>	All other chemical pumps must not be activated	Output: <b>p1</b> and <b>p3</b>
<b>P3</b>	All other chemical pumps must not be activated	Output: <b>p1</b> and <b>p2</b>
<b>OL</b>	Pressure Pump must not be activated Floor Tilt must not be activated In-line heat exchanger steam valve must not be activated	Output: <b>pp</b> Output: <b>ft</b> Output: <b>wh</b>
<b>OR</b>	Pressure Pump must not be activated Floor Tilt must not be activated In-line heat exchanger steam valve must not be activated	Output: <b>pp</b> Output: <b>ft</b> Output: <b>wh</b>
<b>FT</b>	Doors must be closed	Input: <b>LC</b> and <b>RC</b>

\* Left Doors Pumps Safety Switch (LDPSS) and Right Doors Pumps Safety Switch (RDPSS) must also be activated (electrical interlock not controlled by the software).

## >> How to Verify Suction Pump Rotation



1. To select Suction Pump (sp) digital output, use **CURSOR (left or right)** to move to **sp**. Display shows:



2. When selected output is flashing, (sp=suction pump), press **VALUE (up)** to activate suction pump (**SP**).

*NOTE: When output is activated, letters will change from lowercase to capital letters. When deactivated, letters will change from capitals to lowercase.*

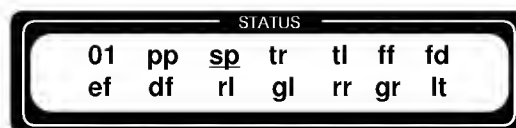
*NOTE: Two persons are required for this operation: one person at the control panel and one person to verify pump rotation.*



3. Then, press **VALUE (down)** again to de-activate pump. A second person must verify motor rotation. As motor is slowing down, verify that motor is rotating in the same direction as the arrow located on the motor.
4. If pump is rotating in wrong direction, lock out, tag out building disconnect switch to **OFF** position.
5. Reverse any two 3-phase wires on **TB1**, located inside Electrical Supply Box (on top of Mechanical Core).
6. Open building disconnect switch to **ON** position.
7. Enter Service Mode (see pages 5-2 and 5-3) to access Digital Outputs menu and verify suction pump rotation once again.
8. When pump is rotating in proper direction, Digital Outputs Menu is still displayed:

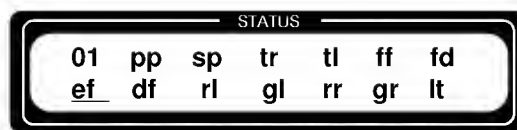


**WARNING - BURN HAZARD:** Allow unit to cool down before performing any service on pump. Surface of motor and piping become very hot during unit operation.



## >> How to Verify Exhaust Fan Rotation (Option)

1. To select Exhaust Fan (ef) digital output, use **CURSOR** (left or right) to move to **ef**. Display shows:

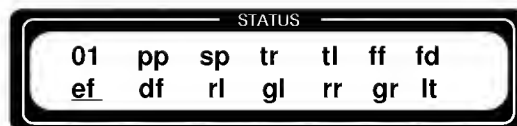


2. When selected output is flashing (ef=exhaust fan), press **VALUE (up)** to activate exhaust fan (**EF**) located on top of washer. See Figure 5-4.

*NOTE: Two persons are required for this operation: one person at the control panel and one person to verify fan motor rotation.*



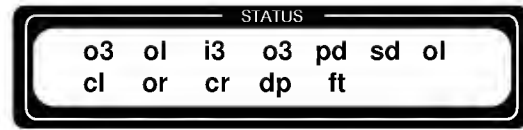
3. Then, press **VALUE (down)** again to de-activate exhaust fan. A second person must verify fan motor rotation. As fan is slowing down, verify that fan motor is rotating in the same direction as arrow located on motor.
4. If fan is rotating in wrong direction, lock out, tag out building disconnect switch to **OFF** position.
5. Make sure numbers on fan motor and on wires match.
6. Reverse any two 3-phase wires on Exhaust Fan motor.
7. Position building disconnect switch to **ON**.
8. Enter Service Mode (see pages 5-2 and 5-3) to access Digital Outputs menu and verify exhaust fan once again.
9. When fan is rotating in proper direction, Digital Outputs Menu is still displayed:



**WARNING - BURN HAZARD: Allow unit to cool down before performing any service on pump. Surface of motor and piping become very hot during unit operation.**

## » Air/Oil Tanks

1. Press **SELECT CYCLE** twice to access Air/Oil tanks Outputs menu (**03**). Display shows:



2. When Air/Oil Tanks Outputs menu (**03**) is flashing, move **CURSOR (right)** to **ol** (Open Left). Press **VALUE (up)** to activate output (**OL**). Doors open. Press **VALUE (down)** to de-activate output (**ol**). Doors remain open.
3. Press **CURSOR (right)** to move to **cl** (Close Left). Press **VALUE (up)** to activate **CL**. Doors close. Press **VALUE (down)** to de-activate output (**cl**). Doors remain closed.
4. Repeat steps 1 to 3, at least four times to make sure all air has been removed from cylinder.
5. If double door unit, repeat steps 1 to 4 for right side outputs: **or** (Open Right) and **cr** (Close Right).
6. Once all air has been removed from cylinders and doors are deactivated, (**cr, cl**) on single door units and (**cr, cl, or, ol**) on double door units, check oil level in Air/Oil tanks on top of washer (see Figure 5-2).

**NOTE:** Make sure all door outputs are deactivated before removing plugs on Air/Oil tanks. If outputs are not deactivated, air pressure will blow oil out of the tanks.

7. There are two Air/Oil tanks on a single-door unit (Tanks 1 and 2) and four tanks on a double-door unit (Tanks 1, 2, 3 and 4) (see Figure 5-2).
8. Oil level in tanks should be adjusted at 1-1/2" (380 mm) in Tank 1 and at 7" (1178 mm) in Tank 2). Oil level will alternate when doors open and close.
9. If oil level is not correct, remove plugs on Air/Oil tanks (see Figure 5-2).

**NOTE:** Make sure all door outputs are deactivated before removing plugs on Air/Oil tanks. If outputs are not deactivated, air pressure will blow oil out of the tanks.

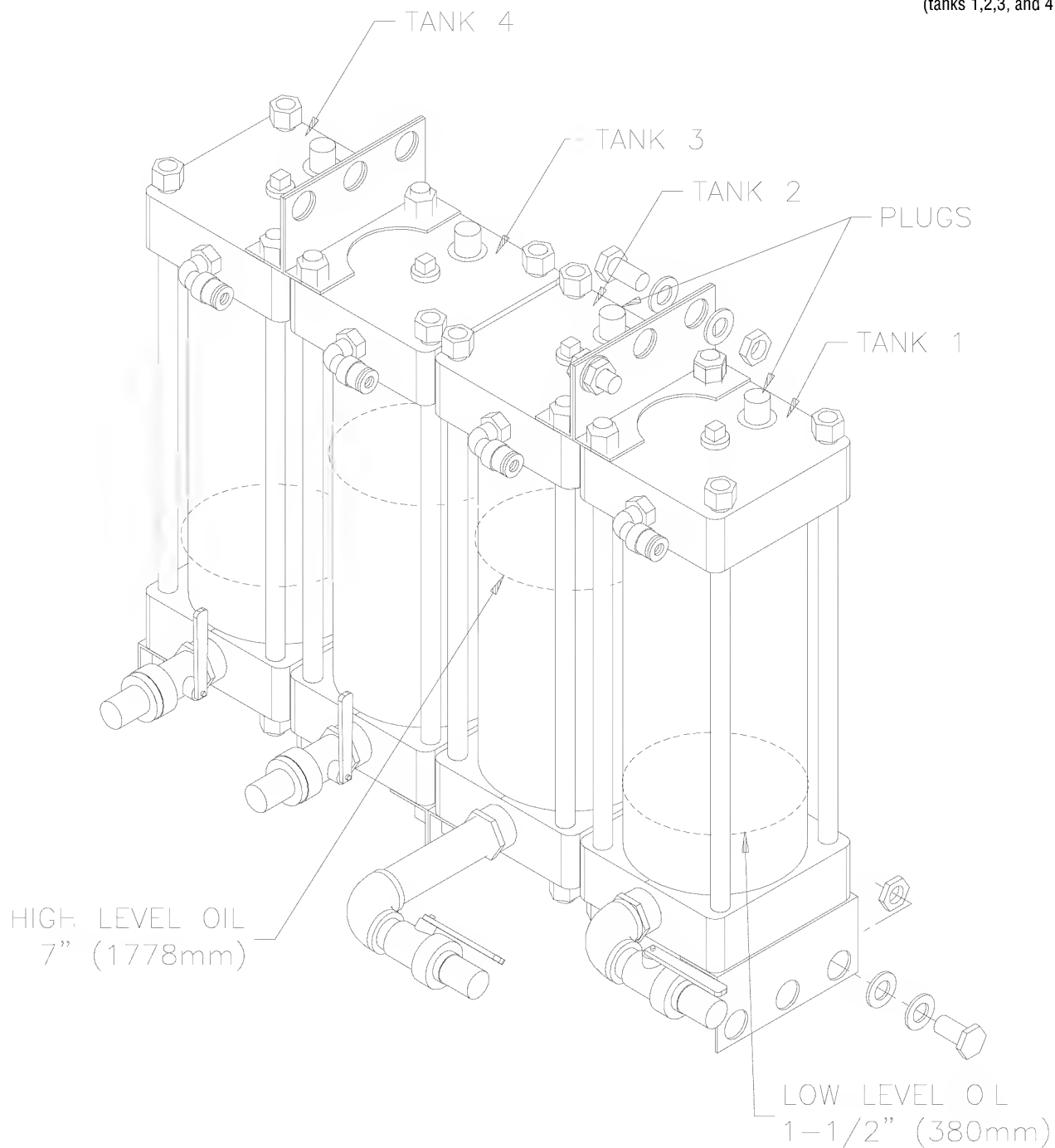
10. Fill tanks until oil level in Tank 1 reaches 1-1/2" (380 mm) and 7" (1178 mm) in Tank 2 (see Figure 5-2). If double door unit, repeat operation for Tank 3 (7" [1178 mm]) and Tank 4 (1-1/2" [380 mm]).

**CAUTION:** Before removing plugs on Air/Oil Tanks, make sure doors are in closed position and all door outputs are deactivated.

**WARNING - FALL HAZARD:** To prevent falls, keep floors dry. Promptly clean up any spills or drippage.

**CAUTION:** Never fill air/oil tanks to the top. Excess oil overflow will damage pneumatic valve.

Oil levels when doors  
are in closed position.  
- Single door units  
(tanks 1 and 2)  
  
- Double door units  
(tanks 1,2,3, and 4)



REF.: #920-006-429

**Figure 5-2. Air/Oil Tanks**

## Calibration

### >> How to Calibrate Chemical Injection Rate



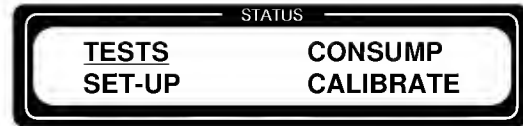
**WARNING - CHEMICAL BURN/EYE INJURY HAZARD:** Chemicals are caustic and can cause adverse effects to exposed tissues. Do not get in eyes, on skin or attempt to ingest by mouth.

- Read and follow the precautions and instructions on the chemical label and in the Material Safety Data Sheet (MSDS) prior to handling the chemical, refilling the chemical containers or servicing the chemical injection pumps and lines.

- Refer to MSDS for appropriate personal protective equipment (PPE) whenever handling chemicals or servicing chemical injection pumps and lines.

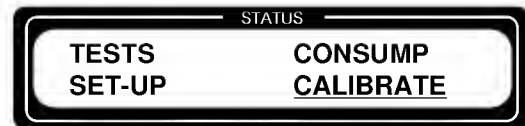


1. To calibrate Chemical Injection, press **STOP/RESET** until main Service Mode menu appears. Display shows:



\_\_\_ indicates flashing position.

2. Press **SELECT CYCLE** until **CALIBRATE** is flashing. Display shows:



\_\_\_ indicates flashing position.



3. Press **CYCLE/START** to confirm selection and access Calibration menu. Display Shows:

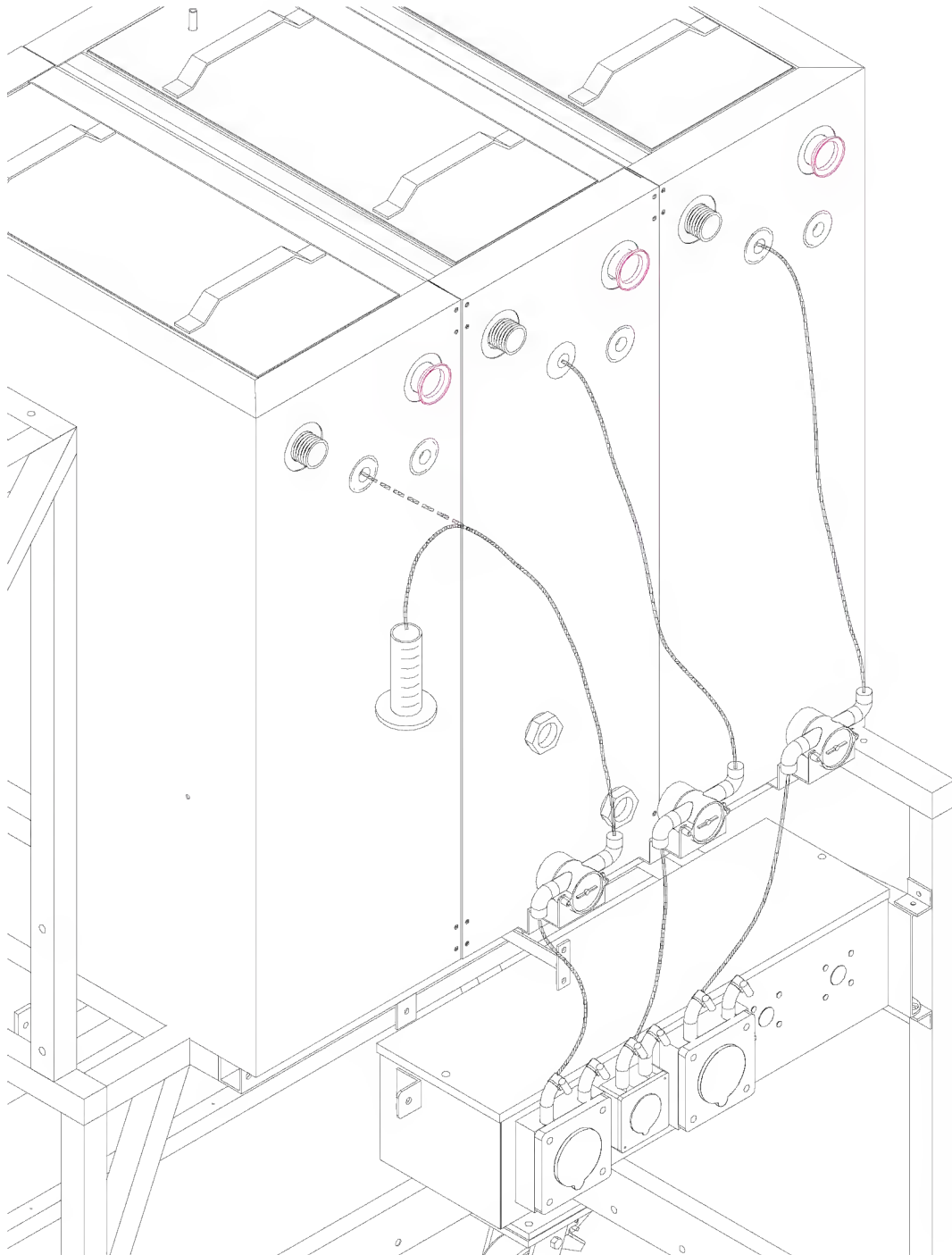


\_\_\_ indicates flashing position.



4. To perform Chemical Calibration, press **SELECT CYCLE** until **CHEMICAL** is flashing. Press **CYCLE START** to confirm selection. Display shows:





REF.: #920-004-495

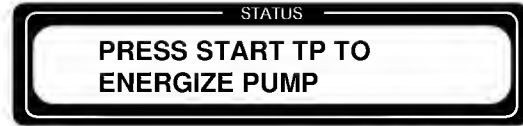
**Figure 5-3. Chemical Injection Ports**



5. Loosen fitting from chemical injection port on **ALKALINE** tank (IP1). Pull out blue tubing and place tubing in a 34 oz. (1 L) (or more) graduated cylinder (see Figure 5-3).



6. Press **CYCLE/START** to confirm selection. Display shows:



7. Press **CYCLE/START** again to initiate injection. Display shows:



8. When injection is completed, display shows:



9. Measure collected amount of chemical in a graduated cylinder. Press **VALUE (up or down)** to enter value measured in graduated cylinder.

*NOTE: Use the same injection units as values programmed in Service Mode (oz or mL).*



10. Press **CHANGE VALUES** to confirm selection. Display shows:



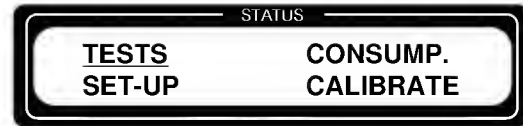
       indicates flashing position.

11. Insert tubing into **ALKALINE** Chemical Injection port (IP1) and tighten fitting.
12. Repeat steps 1 through 11 for calibration of other chemicals (Port IP2, green tubing Drying Aid). If Second Detergent System option is present (Port IP3, red tubing for additional wash chemical ALUMSAFE).

## >> How to Perform RTD Calibration

*NOTE: Temperature calibration requires use of an accurate, recently calibrated potentiometer.*

1. Enter Service Mode, (see pages 5-2 and 5-3). Display shows:



2. Press **SELECT CYCLE** to select **CALIBRATE** and press **CYCLE START** to confirm. Display shows:



3. Press **SELECT CYCLE** to select **RTDs** and press **CYCLE START** to confirm. Display shows:



*\*if option is present*



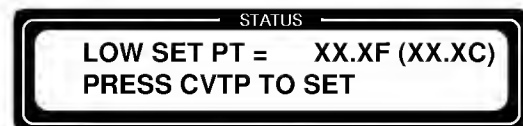
4. Press **SELECT CYCLE** to select **RTD** to be calibrated, then press **CYCLE START** to confirm. If **BOOSTER** is selected, for example, display shows:



5. Put probe in low temperature bath (cold water) with potentiometer lead, then press **CHANGE VALUES** touch pad to confirm. Display shows for at least 10 seconds:



then:





6. Change the low setpoint to match the reading on the potentiometer by pressing **VALUE** (up or down) touch pad, then press **CHANGE VALUES** to set. Printer prints...

LOW POINT SET @ XX.X

and display shows:



7. Put probe and potentiometer in high temperature bath (hot water), then press **CHANGE VALUES** to confirm. Display shows for at least 10 seconds:



then:



8. Change the high setpoint to match the reading on the potentiometer by pressing **VALUE** (up or down) touch pad, then press **CHANGE VALUES** to set. Printer prints:

HI POINT SET @ XXX.XF

then display returns to main menu:



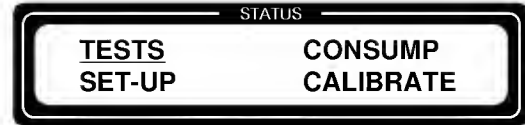
*\* NOTE: If the Cooldown Tank System package is not purchased, choices will not appear on display.*



9. Once calibration is performed for booster, tank 2 and cooldown **RTDs**, press **STOP/RESET** until Service Mode main menu appears.

## >> How to Perform Hot Water Flowmeter Calibration

1. Enter Service Mode, as explained on page 5-2. Display shows:



2. Press **SELECT CYCLE** to select **CALIBRATE** and press **CYCLE START** to confirm. Display shows:



3. Press **SELECT CYCLE** to select **WATER** and press **CYCLE START** to confirm. Display shows:



then, 60 seconds later, display shows:



then, a few seconds later, display shows:



then display returns to previous menu.

## Miscellaneous Verifications in Automatic Mode

### >> Safety Features

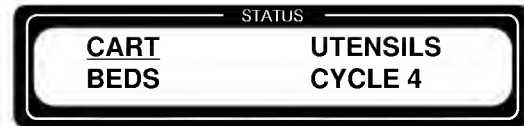


**! WARNING - PERSONAL INJURY HAZARD:** To open doors from inside wash chamber, press Emergency Stop Guard Rails. Washer operation will automatically stop. Then, push firmly between door panels using shoulder and upper arm, applying upper body force. Do not push between the two doors, but between door panels.

**! WARNING - PERSONAL INJURY OR EQUIPMENT DAMAGE HAZARD:** To test or to demonstrate Emergency Exit Safety Doors, first press EMERGENCY STOP Pushbutton (located under Control) or Emergency Stop Guard Rails (inside wash chamber) to turn power OFF. If power is still on while adjusting or servicing doors, the Photoelectric Sensor will detect the movement of the door panels and doors will automatically open.



1. Press **STOP/RESET** until main Service Mode Menu appears, then press **EXTEND CYCLE** to enter Automatic Mode. Display will show:



— indicates flashing position.

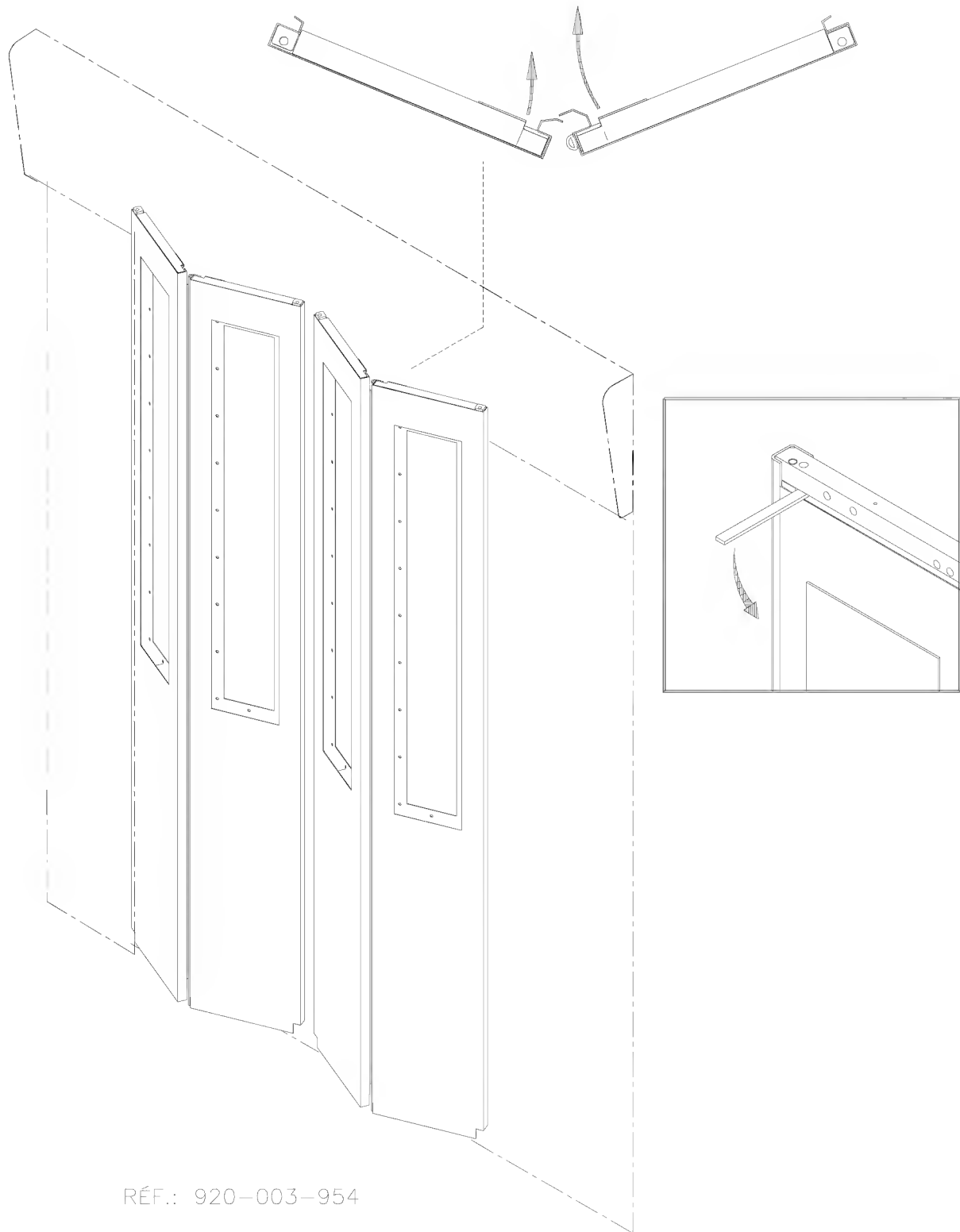
*NOTE: If a second Detergent Tank (option) is present, CYCLE 4 will be replaced by ALUMSAFE on the display screen.*

2. To verify operation of doors, press **DOOR OPEN** then **DOOR CLOSE**.
3. If an obstruction is detected, doors will not close. Display will show:



4. Remove obstruction and press **ALARM REPLY**.
5. Press **DOOR OPEN** or **DOOR CLOSE** to continue verification of door operation.





**Figure 5-4. Emergency Exit Safety Doors**



6. To verify Emergency Stop Guard Rails, open doors by pressing **DOOR OPEN**.
7. From inside wash chamber press down on right Emergency Stop Guard Rail. Control should de-energize.
8. Raise Emergency Stop Guard Rails to re-energize washer and return to Automatic Mode.
9. Follow same procedure to test left Emergency Stop Guard Rail.

*NOTE: To test Emergency Exit Safety Doors, one person must remain inside wash chamber while another operator operates doors from outside of unit.*



10. Outside washer, close doors by pressing **DOOR CLOSE**, then push EMERGENCY STOP pushbutton. Control must be de-energized and depressurized and washer operation should be interrupted.



11. From inside wash chamber, test all Emergency Exit Safety Doors, by pushing firmly between door panels Figure 5-4.

*NOTE: Do not push between the two doors, but between door panels.*

12. To close door sections, fold left side panel into right side panel, then press panels firmly into place (see Figure 5-4).

*NOTE: All Emergency Exit Safety Doors must be closed before re-energizing control.*



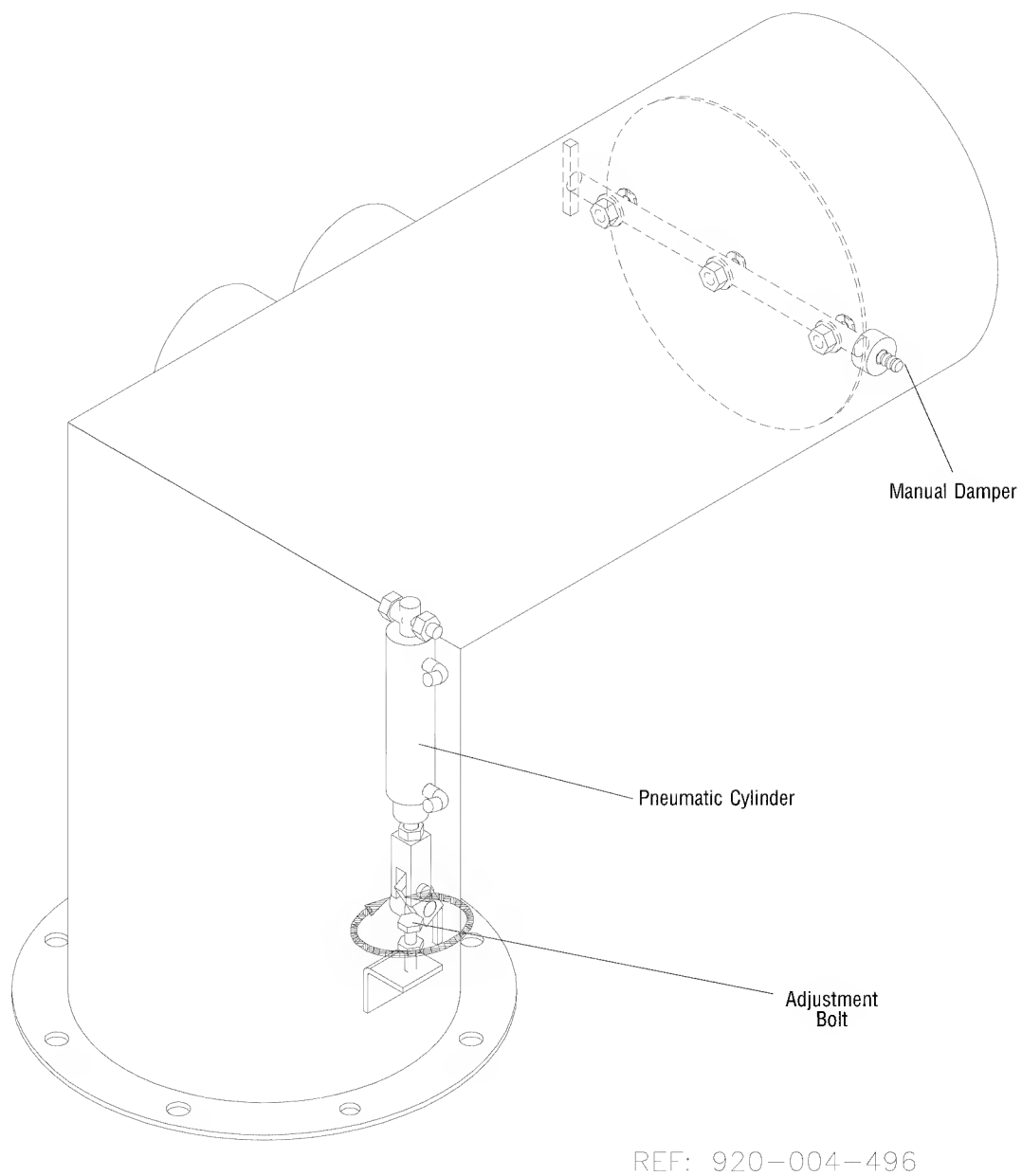
13. Pull out **EMERGENCY STOP pushbutton** to re-energize control.
14. To verify that cycle does not start while doors are opened, open loading doors by pressing **DOOR OPEN**.



15. Press **SELECT CYCLE** to select **CART**. Press **CYCLE/START** to start selected cycle. Display shows:



16. Close doors by pressing **DOOR CLOSE**.
17. Unload door operation must be verified manually.
18. Push **EMERGENCY STOP pushbutton** to depressurize washer.
19. Slide fingers between unload doors and push doors apart (about 12" [305 mm]).



**Figure 5-5. Exhaust Damper Adjustment**



20. Pull **EMERGENCY STOP pushbutton** to re-energize washer.  
Display shows:



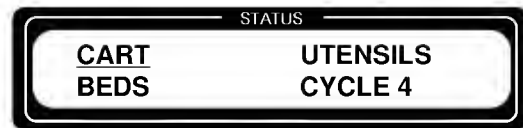
21. On unload side, close unload doors by pressing **DOOR CLOSE**.

22. Washer will perform Priming Phase.

## >> Automatic Floor Tilt



**WARNING - BURN HAZARD:** Except for emergency, do not open doors when cycle is in progress. In an emergency, first stop cycle by pressing the **EMERGENCY STOP pushbutton** and wait for water flow to stop. Wear appropriate personal protective equipment (PPE) whenever reaching into or entering wash chamber.



\_\_\_\_\_ indicates flashing position.

*NOTE: If a second Detergent Tank (option) is present, CYCLE 4 will be replaced by ALUMSAFE on the display screen.*

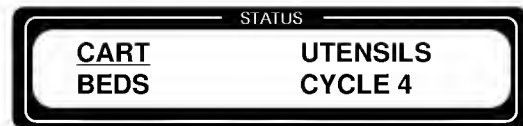


2. Press **CYCLE/START** once to start CART cycle.
3. Look through door window to make sure floor is tilted.
4. During cycle, inspect all piping, on service side and on top of washer for leaks. If any leaks occur, tighten appropriate clamps and unions.

## >> Manual Damper Adjustment



**WARNING - BURN HAZARD:** Allow unit to cool down before performing any service on mechanical components and on piping. Components and piping become very hot during unit operation.



\_\_\_\_\_ indicates flashing position.

*NOTE: If a second Detergent Tank (option) is present, CYCLE 4 will be replaced by ALUMSAFE on the display screen.*



2. Press **CYCLE/START** once to start **CART** cycle.

3. During Drying phase, if dry air is leaking at the bottom of the doors, open or close manual damper (see Figure 5-5).
4. If too much air is still coming out during the Drying phase, perform a new cycle and re-adjust damper until an acceptable amount of air comes out at the bottom of the doors.

## >> Automatic Damper Adjustment

**WARNING - BURN HAZARD:** Allow unit to cool down before performing any service on mechanical components and on piping. Components and piping become very hot during unit operation.

Verify unit for steam leaks out of doors. (Repeat steps 1 to 3).

1. During the Thermal Rinse phase, if steam is leaking at the bottom of the doors, increase unit ventilation CFM by unscrewing pneumatic damper cylinder adjustment bolt, to open damper and increase CFM (see Figure 5-5).
2. Allow cycle to run to completion. Refer to Operator Manual (122997-060) to verify proper operation of unit and cycle.
3. When Cycle is completed, display shows:



alarm buzzer sounds, and indicator light on unload side turns green.

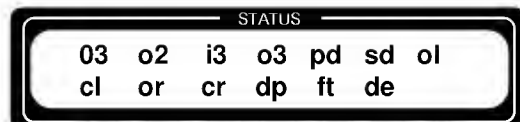


4. Open chamber doors by pressing **DOOR OPEN** (on unload side).
5. Inside wash chamber, remove debris and clean suction plate.

## >> Clean Steam Supply Valve



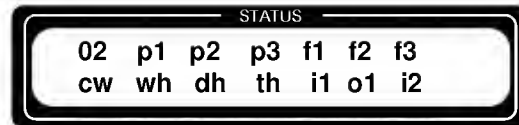
1. Press **DOOR CLOSE** to close doors.
2. Shut off steam supply valve.
3. Open pressure gauge on manual ball valve located on main utility inlet steam line.
4. Push **EMERGENCY STOP pushbutton** then pull it back out.
5. Enter Service Mode (see page 5-2) and follow procedure on how to access digital outputs menu (see Table 5-1). Press **SELECT CYCLE** until display shows:



6. Press **CURSOR (left or right)** to select **pd** (Pressure Piping Drain Valve). Press **VALUE (up or down)** to activate **PD**.



7. Press **SELECT CYCLE** until display shows:



8. Press **CURSOR (left or right)** to select **wh** (In-Line Heat Exchanger Valve). Press **VALUE (up or down)** to activate **WH**.

**WARNING - BURN HAZARD:** Allow piping to cool down before inspecting and/or cleaning supply line strainers.

**WARNING - BURN HAZARD:** When inspecting and/or cleaning supply line strainers, hot water/steam may be sprayed through door opening. Wear appropriate personal protective equipment (PPE).

9. Verify pressure gauge on main inlet steam line. Make sure that pressure on inlet steam line has dropped to lowest point possible.
10. Lock out and tag out main electrical disconnect switch in **OFF** position.
11. Very slowly untighten plug on utility supply-line strainer.
12. Remove filter from strainer and remove all debris and clean filter. Reinstall filter, plug.
13. Close steam pressure gauge valve.
14. Turn on main utility steam line valve. Open main electrical disconnect switch in **ON** position.

**IMPORTANT:** After a few weeks of operation, inspect units for leaks. Re-tighten all clamps and connections.

**WASHER IS NOW READY FOR NORMAL OPERATION.** Contact your local STERIS representative to schedule a demonstration on how to operate the equipment. Refer to the Operator Manual (122997-960) for operating instructions.

**If unit is equipped with 130L Load/Unload Modules:** Once Operational Test is completed, perform the Operational Test for the 130L Load/Unload Modules. See Section 6 of Uncrating/Installation Instructions (P-920010-101) for 130L Load/Unload Modules.



STERIS Corporation  
5960 Heisley Road  
Mentor, OH 44060-1834 ■ USA  
440-354-2600 ■ 800-JIT-4-USE (800-548-4873)